

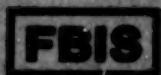
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East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 1977



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INTERNATIONAL AFFAIRS

'SPEDRAPID' POLISH-CZECH CARGO FORWARDING OPERATIONS REVIEWED

Gdansk TECHNIKA I GOSPODARKA MORSKA in Polish No 11, Nov 79 pp 641-643

[Article by Kazimierz Letke, SPEDRAPID, Gdynia: "Thirty Years of the SPEDRAPID Polish-Czechoslovak Freight Forwarding Company"]

[Text] The Polish-Czechoslovak SPEDRAPID Freight Forwarding Company, Ltd. began operations 30 years ago. The company was set up for the exclusive servicing of Czechoslovak transit in Polish seaports. The company to this day continues to fulfill the activities that were specified by statute at that time, handling all Czechoslovak foreign trade freight transiting through Polish territory and transloaded in Polish seaports.

On the occasion of the 30th anniversary of the company's founding, it would be worthwhile to outline its history briefly and to present the current state of the enterprise and to give some thought to the prospects for the development of Czechoslovak land and sea transit, for which SPEDRAPID serves as agent in our ports.

The enterprise is a Polish Commercial Law Company and among the basic acts fixing its activity are the following:

- 1) Agreement of the company dated 11 November 1949 between the CZECHOFRACHT International Forwarding and Freight Enterprise, Prague (formerly METRANS AS, Prague) and the C. Hartwig S.A., Warsaw Administration.
- 2) Minister of Foreign Trade Directive No 28 dated 1969 (OFFICIAL GAZETTE of the Ministry of Foreign Trade, No 10), which specified the subject and the range of activity, and subordinated the company to the supervision of the Ministry of Foreign Trade (Currently the Ministry of Foreign Trade and Maritime Economy).
- 3) Directive No 32 of the Minister of Foreign Trade and the Minister of Finance dated 1972 (Official Gazette of the Ministry of Foreign Trade, 1972, No 13), which fixed the company's financial activity.

On the basis of these acts, the company gained the status of a socialized economic unit and acquired the powers of a foreign trade enterprise, which enabled it to execute the tasks spelled out by statute.

The C. Hartwig International Forwarding Enterprise represents the participation of the Polish partner currently. Each partner has a share in the amount of one-half of the basic capital.

The Administration and organization of the enterprise are based on the line-staff system and the organizational units are arranged according to a directoral system.

The highest authority of the company during the period between the sessions of the meetings of the partners, which occur at least once annually, is a four-person board, consisting of two members who are Czechoslovak citizens, and two who are Polish citizens. The work of this organ is conducted by the chairman of the board of the company, who is appointed through the meeting of all the partners from among the members of the board who are Czechoslovak citizens, whereas the general director, who is a Polish citizen nominated to this position by the Ministry of Foreign Trade and Maritime Economy, and runs the company's enterprise on a day-to-day basis, is appointed as a member of the board at the sessions of the meeting of partners.*

The 9-year period which has passed since the introduction of the afore-described management system has confirmed its effectiveness, which is best attested to by the results attained by the enterprise, both in the sphere of commercial operations and in the financial arena.

During the course of the 30 years of its existence, the enterprise has experienced various cycles of fortune, going through rises and falls, which stemmed, not only from the prevailing situation on the commodity and transport markets, but mainly from the attitude of economic and administrative authorities with respect to the company. In the past, and this applies especially to the 50's, these authorities did not have a well-defined stand in matters of an official nature, and were inclined at times to treat the company as an enterprise belonging to the so-called private sector, with all the fiscal consequences that resulted therefrom. This era is largely past, and in the current situation, the official status of the company elicits no doubts whatsoever.

The fact of the settlement of this matter in a basic agreement, as is the long-range treaty adopted in 1974 in Warsaw between the governments of Poland and Czechoslovakia on cargo transit through the territory of both countries, which is binding to 1990, can be a measure of the importance and significance that the state authorities of both Poland and Czechoslovakia place on the existence and continued profitable activity of the company.

Experience teaches that the particular form of individual representation of the interests of Czechoslovak foreign trade in Polish ports that has been

*See K. Letke: "Twenty-Five Years of the SPEDRAPID Polish-Czechoslovak Freight Forwarding Company," TGM No 2 1974 pp 79ff.

assumed by the SPEDRAPID company is one of the basic factors of activation with regard to Czechoslovak transit, and makes it possible to have operational activity on the port-shipping market, makes immediate mediation possible, and makes it possible to maintain constant contacts with Polish enterprises that render services in regard to this transit.

Statistical data show that we have noted the main increase in Czechoslovak trade turnover in Polish ports since 1961, in which case, transloadings have tended to amount to about 3 million tons per year since that time to the jubilee year (25th anniversary of the company's founding). The fulfillment of the tasks specified annually by the transport protocol has become the main goal of the work of the board and the directors of the company, and also the ambition of the personnel.

Unfortunately, since 1975, transloading have dropped below this long established level, and amounted to:

<u>Year</u>	<u>Total tons</u>	<u>General cargo, percent of total</u>
1975	2,760,867	38.1
1976	2,414,958	39.5
1977	2,232,931	44.4
1978	2,433,972	56.0
1979 ^a	2,250,000	42.0

^aorientation data. The catastrophic winter conditions at the beginning of 1979 caused a 267,000-ton shortfall during the First Quarter, as compared to the plan.

The reasons for this negative phenomenon have to be sought above all in the shortcomings of rail transportation, our main land transport system, and in the serious deficiencies in seaport capacities, the development of which fails to meet the current needs of both Polish foreign trade and transit contractors.

We are coping with unusually difficult conditions, under which our railroads, which are breaking all records of freight hauls in proportion to the available rolling stock, and our ports, which in spite of the yet incompleting needed capital investment projects, are transloading many millions of tons over the theoretical calculations of the output of equipment and the capacity of the transloading-storage bases. Competing ports are taking advantage of this, of course, to the detriment of the interests of the national economy. These competing ports are mainly Hamburg, whose annual transloadings of Czechoslovak transit cargo have risen during the last 10 years from about one million tons to 2.7 million tons in 1978, and the Yugoslav ports, where Czechoslovak transit turnover reached 2.1 million tons in 1978 and have thus come close to the transloadings in Polish ports.

The rise in the share of general cargo in over-all transloadings has occurred mainly, from the following causes:

- 1) The gradual change in proportions between import loadings and export loadings to the advantage of export.
- 2) An absolute increase in export loadings, of which general cargo forms the greater part.
- 3) The outflow of bulk cargoes in import to competitor ports.
- 4) A drop in over-all transloadings.

This is confirmed by the following presentation of Czechoslovak transit through Polish ports:

Year	Imports		Exports	
	1,000-tons	%	1,000 tons	%
1975	1,654.3	60.0	1,106.5	40.0
1976	1,265.3	52.4	1,149.7	47.6
1977	1,122.9	50.3	1,110.0	49.7
1978	961.0	39.5	1,473.0	60.5

The rising number of Polish foreign trade loadings, especially in the bulk cargo group has caused a limitation in the capability of accepting for servicing ships with bulk cargoes of transit contractors, including Czechoslovakia, in the main. This plus the lack of a steadily progressing investment for increasing the port potentials adequately has led to an outflow of these Czechoslovak cargoes to competing ports. In particular, bulk carrier cargoes, namely, iron ore and phosphorites, have shown a reaction to these deficiencies, these cargoes are decisive in the quantitative shortfalls relative to the plan that have been noted in recent years.

The increasing costs of demurrage of ships that the contractor is encumbered with, with simultaneous holdovers of bulk loads for long periods in port warehouses in connection with the lack of capacity for transporting them to Czechoslovakia have led to a situation where the Czechoslovak customers have been forced to direct these cargoes to competing ports, mainly to Hamburg, where they are assured of considerably more efficient service and more rapid shipment, but with higher port costs and land transportation costs. Another serious shortcoming stemming from this decision is the necessity for the regulation of all requirements in convertible currency by Czechoslovakia.

However, in spite of these obvious burdens, which as a result cause substantial increases in the costs of transactions and cannot help but have an unfavorable influence on the balance of payments of Czechoslovakia in international transport, the Czechoslovak contractors are forced by the material and market situation to avail themselves of the services of the aforementioned ports.

The Czechoslovak party, as attested to also by the offers made during the time of negotiations over the transport protocols, as well as by the concrete factual tasks submitted monthly to the SPEDRAPID company, is in a position to supply a quantity of cargo considerably in excess of 3 million tons annually. For it is an obvious fact confirmed at least by the 30-years of practical operation of the company, that the economic considerations that show up in the advantageous calculation of transport favor the selection of Polish seaports as the base ports of Czechoslovakia.

A disturbing phenomenon that remains however, is the fact of outflow of a number of valuable cargoes to competing ports and to other seaways. In the future, this can seriously threaten the once dominant position of our ports, and also our shipline operator--the leading partner of Czechoslovak overland and sea transit. This is illustrated by the Czechoslovak cargo hauls from and to Polish ports on Polish Ocean Lines ships (in thousand tons):

<u>Year</u>	<u>Hauls</u>
1976	440.6
1977	442.2
1978	492.1
1979 ^a	430.0

^aExpected results.

From this standpoint, it is SPEDRAPID's aim to maintain Czechoslovak transit at present levels and to endure the difficult period until the time that viable conditions are set up for assuring the dynamic growth of transloadings and for attaining the volume anticipated in the 5-year and long range agreements. It seems that such action can bring its intended effect only when it is backed by the active support, the involvement, and attention of the railways, the port authorities, and the maritime shippers, mainly the Polish Ocean Lines.

Good Cooperation with the Polish Ocean Lines and Port Authorities

It must be stressed with satisfaction that the recommendations presented by us and justifications in this regard are being met with understanding and cooperation on the part of the Polish Ocean Lines and the port authorities. These enterprises are facing up to the demands of the customers more than had been the case till now, and base their offers on premises of an economic nature.

Gross transloadings of Czechoslovak transit in Polish ports were 16.8 million tons in the 1951-1960 period and 32.6 million tons in the following decade (1961-70), which means an actual doubling. On the other hand, during the current decade, transloadings have stabilized perhaps at a level of 25.8 million tons. Thus, during the postwar period, during the course of the 30-years of operation of SPEDRAPID, Czechoslovak transit in Polish ports reached 75 million tons. A nice celebration of the symbolic transloading of 75 million tons of Czechoslovak transit took place on 15 October 1979 in Gdynia.

Participation of the Szczecin-Swinoujscie and Gdansk-Gdynia port groups in the transloadings of Czechoslovak transit during 1975-1978 was as follows:

Port Groups	1975		1976		1977		1978	
	<u>Min</u>	<u>Ton</u> %	<u>Min</u>	<u>Ton</u> %	<u>Min</u>	<u>Ton</u> %	<u>Min</u>	<u>Ton</u> %
Szczecin-Swinoujscie	1858.9	67.4	1478.7	61.2	1354.9	60.7	1380.5	56.7
Gdansk-Gdynia	901.9	32.6	936.2	38.8	878.0	39.3	1053.5	43.3

The concentration of the greatest part of the transloadings in the Szczecin-Swinoujscie Port Group stems from:

- 1) Location vis-a-vis the Czechoslovak hinterland (reduction of distance paid for).
- 2) Rebuilding of Swinoujscie and the adaptation of Szczecin for the transloading of bulk cargoes.
- 3) The possibility of transporting part of the bulk cargoes, especially iron ore, via the Odra river.

A tendency toward more equal distribution of Czechoslovak transit cargoes to the three base ports that has been observed in recent years has been caused by:

- a) The outflow of a part of the bulk cargoes to Hamburg.
- b) Minimum use of the Odra river as a natural waterway, which is connected with the lack of a sufficient number of railroad cars for transporting ore from Kozel to Czechoslovakia.

Czechoslovak cargo transport on the Odra river during the last few years were as follows (tons):

192,800 in 1975; 247,800 in 1976; 150,200 in 1977; 153,700 in 1978.

It must not be forgotten that the changes in the cargo structure of Czechoslovak transit and also the dispersion of its routings, and its overall mass are also the result of conditions prevalent on the world markets. The freight forwarding operations are dependent to a significant measure on international trade turnover. Any kinds of slowdowns in this process always have definite repercussions on the transport-freight forwarding market.

During the 30 years of its activities, SPEDRAPID was always able to cope with the demands of the Czechoslovak customer, who, as an experienced merchant, is not easy to satisfy. On the other hand, the building up of a responsible trade position necessary for the proper operation of the enterprise and for the fulfillment of its assignments, necessitated a seaport

training center for training skilled personnel thoroughly familiar with their profession and carrying out their tasks with great commitment. It should be emphasized with great satisfaction that both of these goals have been attained in toto. SPEDRAPID enjoys a good reputation in the eyes of the Czechoslovak customers, and in the Polish arena, it is well known as a reliable freight forwarder staffed by experienced personnel. With pride, we can talk about our personnel, among which, is the managerial core consisting of workers of many years service, who have proved themselves in 20-25 years of experience, and some are even the "old timers" of the company, i.e., with 30 years of experience. This shows that the workers employed in SPEDRAPID have found good working conditions and a suitable atmosphere conducive to effective and reliable work, so that they identify the fulfillment of their profession with the goals and needs of the enterprise.

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HUNGARIAN-CEMA TRADE, PRICING METHODS CRITICIZED

Budapest KOZGAZDASAGI SZEMLE in Hungarian No 11, Dec 79 pp 1350-1368

[Article by Kalman Pecsí, department chief M . World Economic Research Institute: "The Effectiveness of the Principle of Mutual Advantage in Hungarian-Soviet Economic Relations"]

[Text] The Theoretical Bases of the Principle of Mutual Advantage

The effectiveness of mutual advantage is a steadfast principle in the economic, commercial, foreign exchange and financial relations of the socialist countries. This cannot be any other way for it cannot be in the interest of any socialist country to claim unilateral economic advantage over other socialist countries in economic cooperation. The effectiveness of the principle of mutual advantage is basically guaranteed if the cooperation contributes maximally to the effective development of the individual national economies, if the energy sources of the CEMA area are better harnessed and better developed, and if there is a tendency to equalize the differences in the level of development in the member states. Thus, in the tendentious effectiveness of the principle of mutual interests one must always examine what the influence of economic cooperation within must--and, within that, Hungarian-Soviet cooperation--is, in its whole framework and totality, on the elements of economic effectiveness, and on the conditions of their improvement in the individual countries and whether or not the principle of a more and more favorable exploitation of resources prevails. Since this principle, as opposed to concrete foreign trade prices whose characteristics are known in commerce, has only a trend-like effect, and since internal assessments--because of a generally very limited role of the various rates of exchange in the different countries and because of a lack of direct relations between producing enterprises--are basically connected with national viewpoints, the principle of mutual interests was being doubted, more often than once, in Hungarian-Soviet commerce, both Soviet Union and Hungary claiming that the other party had unilateral advantages. The objective examination of this subject in the development of Hungarian-Soviet economic cooperation is, beyond economic factors, also politically significant.

Our point of departure in looking over the theoretical aspects of the principle is that the socialist international division of labor makes it completely possible for every one of the participating countries to reap benefits from the international division of labor on the basis of completely equal rights and mutual advantage. This is a quite new phenomenon, as opposed to the capitalist international division of labor. The division of labor between socialist countries makes it theoretically possible for the individual countries to develop primarily those economic branches which are based on the most favorable natural and economic conditions, and to meet not only their own demand of products of these branches but also that of other socialist countries whose conditions to manufacture these products are relatively more unfavorable. Therefore, the principle of mutual advantage and profitability may prove to be effective when organized in a social magnitude and in the interest of the whole society, and not spontaneously and in an anarchistic way.

Why can it happen, then, that the assessment of the effectiveness of the principle of mutual advantage ends up in wrong definitions? It is because of a part of the advantages or disadvantages originating from foreign trade and other international economic activity can be expressed with numbers. At the quantification of results originating from the international division of labor, the comparison of results--achieved or to be achieved--with actual domestic investments, or the indicators derived from it, cannot by themselves determine whether participation in the international division of labor is advantageous or disadvantageous. In the socialist economy, it is a special task of the economic (and, within that, of foreign trade) activity to contribute to the rapid and proportionate development of the productive forces of the given country and the whole socialist world economic system, to the constant increase of the population's affluence and to the guarantee of an appropriate preparedness of defense as well. Thus tasks that have no quantitative meaning and those of a political character also play primary roles among those of socialist foreign trade. For this reason, all concepts which define the goals of foreign trade policies exclusively in terms of short and middle-range trade, are incorrect.

The theoretical debate¹ about the proper assessment of the so-called profitability indicators that are at our disposal, is over. These are good for showing, for instance, whether the export or import of a product within a given country is more economical than that of another product. On the basis of this, they may be used by a given country to select the relatively most favorable one of the possible foreign trade relations. Every such decision requires, however, a very thorough economic analysis, even within a single country. Since the criteria of appraisal in the economic mechanisms of the individual countries--because of various economic, directive, organizational, etc. considerations--are completely different from each other, and since there is no direct relationship between the price, income, financial, credit, incentive, employment, etc. policies of the individual countries, the economic indicators which are developed in

the system of appraisal in a single country are totally unsuitable for a comparison between two or more countries.

It also follows from the effectiveness of the principle of mutual advantage that a given country cannot limit its exports to products that are economically more profitable but, according to the demand of the market, must also include those which, although they recover investment expenses, are not very profitable. Thus the limit to which exports may be considered economical also depends on the volume of foreign trade. These general conclusions, too, are valid only within certain limits. When setting the order of profitability, the interactions must always be analyzed and the most appropriate variant must be selected accordingly.

The foregoing has already shown the main elements of the trend-like effectiveness of mutual advantage, such as price advantage, terms of trade, price levels, profitability, effectiveness, and a few political and other noneconomic and related problems.

For the sake of clarity, we must establish three important basic principles:

--there is only one, albeit a very important, aspect in which price conditions, price relationships and terms of trade characterize the effectiveness of foreign trade relations, including Hungarian-Soviet relations as well;

--from the individual standpoint of a country, foreign trade relations are effective only if they make it possible for the given country to develop in those areas which can develop only through foreign trade relations;

--foreign trade between two countries is mutually beneficial only if, in addition to fulfilling the two previous conditions, they create a financially successful and suitable product structure based on a bilateral, and approximately identical, rational system of appraisal.

These definitions also indicate the complexity of the condition scheme for the effectiveness of mutual advantage.

A price advantage or an improvement in the terms of trade are, in themselves, not an increase in effectiveness and, by the same token, mutual advantage is not identical with the former two either.

The development of effectiveness differs, both quantitatively and qualitatively, from the change in the terms of trade. Although quantitatively the direction of change in the terms of trade corresponds with the change in national income resulting from changes of foreign trade prices, these are not simultaneous. Qualitatively, the definition of effectiveness also includes that national income should, through foreign trade, grow in such a way that it will aid, both directly and indirectly, the smooth development of society and the economy.

Mutual advantage requires, therefore, a qualitative rather than quantitative definition. Since it requires only a certain (and not necessarily the same) financial expeditiousness from both sides, it makes no allowance for a price advantage that might be beneficial for one or the other party in a given period, in other words, it does not view change in the terms of trade as something that excludes mutual advantage. At the same time, it does not view a mutual trade, which is very beneficial for one of the countries, as necessarily effective since effectiveness is a concept of total foreign trade; its demands must be met not only by its individual elements but by total trade. We know from practice those cases when, although trade is very lively in a certain relation or period, it carries in itself the danger of instability and tensions, and it maintains (or creates) an undesired condition in society and economy. It will hardly consider in good conscience a monocultural foreign trade, for instance because of factors of insecurity and defenselessness that arise, to be economically effective from the standpoint of the country "ailing" in monoculture, not even when it is momentarily mutually profitable. The situation is similar also in the case of unrelational foreign trade. All of this does not exclude, however, that such a trade is mutually advantageous for both partners, since the composition and degree of the advantages are not subjects of examination and scrutiny in the definition above.

In this line of thought, mutual advantage may replace price advantage of this or that direction in such a way that the latter must not be considered one-sidedly or as a factor that excludes mutual advantageousness either. This method of approach includes the realistic conjecture that the mutual advantage of one or another relation is, as seen from the viewpoint of efficiency, economically necessary, but it is not a sufficient criterion.

It is the terms of trade that are endangered by a biased appraisal. Although it is true that this cannot be exactly computed, it is well-known how important, or even indispensable, this indicator is in practice for it gives relatively good information about the role of foreign trade in the realization of national income. On the basis of relatively exact computations of the terms of trade, an improvement in the terms of sale resulting from changes in foreign trade prices increases, by itself, national income while a deterioration decreases national income, at least when the balance of trade is even. In case of active or passive balance, this trend-like relationship does not necessarily exist: in case of passivity, the balance will not always become active as a result of an improvement in the terms of trade (in other words, improvement in the terms of trade does not, by itself, contribute to the increase of national income), and in case of activity, the degree of deterioration in the terms of trade may be smaller than that of the former activity (in other words, deterioration in the terms of trade does not decrease national income, it only decreases the additional increase). The change in the terms of trade as a "quality" indicator should, therefore, be evaluated, not forgetting the volume of trade, by the effect of the changes in foreign trade prices on national income.²

There is no doubt that the examination of efficiency in foreign trade, also including the terms of trade, must go deeper than global symptoms. Even from an econopolitical and management viewpoint, it makes a difference whether a change in the terms of trade is manifest only in a change in export prices or if it is also accompanied by a change in import prices and whether the increase or decrease of the latter was manifest primarily in productive utilization or perhaps in investments.

From the viewpoint of the effect of foreign trade on national income, the examination of factors suitable for the analysis of the development of the net income coming from foreign trade activity is at least as important as that of the terms of trade. For shortrange development, when all things are considered, may be determined from the totality of these factors. The question of terms of trade is only one, and not always the most significant, component. From the viewpoint of a desirable social and economic development, a qualification of foreign trade products and relations system and of processes triggered by foreign trade is also indispensable in addition to the foregoing for longer-range analysis.

It is an important requirement in foreign economy and foreign trade relations that they contribute as much as possible to economic growth. One way to accomplish this is the improvement of the terms of trade and the guarantee of price advantages, especially through the improvement of export quality and the parameters of product utility. We must also take advantage of these possibilities in dealing with our socialist partners, and thus with the Soviet Union, and, of course, our partners, too, do the same in dealing with us. One of the reasons why we cannot say about mutually advantageous commercial relations that they take place without price advantages is that the effectiveness of the latter is a natural consequence of production incentives directed to increase national income without interfering with the interests of others. One of the reasons why it is not possible to exclude the possibility of price advantage or a change in the terms of trade from mutual advantage is that they originate from many sources that are acceptable even in socialist barter trade. Such is a price increase resulting from the modernization of product selection and incentive prices or that which is connected with the geographical location of raw material sources. For such reasons, the prices of both Hungarian and Soviet manufactured export goods may increase. The advantages also include the concentration effect and the effect of price originating from the time factor and the favorable location of the business domicile.

In the integrated community, all price changes that are not based on an uncontrollable abuse of monopoly are acceptable, for the latter is incompatible with the requirements originating from political relatedness. A striving for permissible price changes and modifications of the terms of trade is, even from the viewpoint of each individual country as well as of the community as a whole, not only unobjectionable but its exclusion would hinder technological and economic development.

Terms of trade, prices and profit are only individual elements of mutual advantage. In addition, a mutually satisfactory selection of products is a very important factor. In this regard, an indisputably advantageous feature of Hungarian-Soviet trade is that, on the one hand, the Soviet Union is our most dependable and constant supplier of raw materials and, on the other hand, Hungarian products have a market with a very high capacity for absorbing goods.

Terms of trade and mutual advantage are not identical categories, nor is their significance identical; the former is part of the latter, and the latter is more decisive. We must also keep in mind that the trade between the two countries will come under further and more comprehensive scrutiny as far as the effectiveness of their total foreign trade is concerned, and thus the acknowledgement of mutual advantage is not a final qualification.

The question may be raised, whether we are not blowing up this subject? We must answer with a no, for the effectiveness of mutual advantage is the main organizing principle in the appropriate definition of reciprocal economic relations and in the emphasis of their socialistic character. The main strength of the socialist community is the Soviet Union. Its high market makes economic relations with it automatically advantageous for a small country such as Hungary if the potentiality of both countries are rightly considered. The political aspects of the principle of mutual advantage are also to be noted. Aside from economic relations, the Soviet Union and Hungary also have very strong political ties in the cooperational process of the socialist countries. In opposition to momentary economic interests, mutual political goals must be the primary ones for every socialist country belonging to CEMA, for they correspond, in the final analysis, to long-range economic goals. We must strive, even in the short range, to minimize the possibility of conflict between the projection of long-range political goals and momentary national economic interests, mainly by dividing the mutual tasks between the individual countries on the basis of a comprehensive examination of their load-bearing capacity.

From this viewpoint, it is extremely important to define mutual advantage. It would not be right to say, for instance, that we violated the principle of mutual advantage with the price system of the CEMA that was in effect during the mid-sixties and that Hungary drew more economic benefits from the cooperation than the Soviet Union. He who said this, would have some difficulty in explaining, for example, the effect of the 1973 price explosion in CEMA relations which in turn caused precisely an opposite development of prices. As it could not have been said in the sixties that Hungary drew unilateral benefits from barter, it cannot be said today that the Soviet Union has such advantages. Until national states and national markets exist, national interests will also prevail. Consequently, a possible divergence of national and international interests is an objective necessity. The only question is, what forms this divergence of

interests will take. If these forms are appropriate, the divergence in national and international interests may be bilaterally and multilaterally exploited in a way that will be advantageous for every party in the international cooperation and that will set limits to national and autarkic solutions. Prices in foreign trade must optimally express and serve mutual advantage.

The advantage of a given country, drawn from foreign trade with another country, is optimally manifest in the dynamically and contemporarily defined principle of comparative advantage. Namely, it is expedient for a country--if its domestic prices reflect investments--to export, first of all, products that are on the top of the list of national effectivity. The situation is reverse in imports. According to the dynamic and contemporary definition, not only the present advantages but also the developmental potentials of the national economy and the exploitable advantages that arise from them, must be considered. This means, under conditions of production that correspond with modern technology, that the indicators of the demand for devices, research, investment and capital, and modernity and the time factor must be considered in all phases of production. Prices must, in principle, be such so that they will encourage the constant consideration of these factors, even in long-term agreements.

In the present system of economic control and management of the CEMA countries, the measurement of comparative advantage--according to the static and dynamic aspects listed above--in the countries bilateral economic relations meets with almost insurmountable difficulties in the case of individual concrete transactions. For this reason it is worth the trouble to go over the advantages again, according to the definition mentioned, that arise from external relations, in order to be able to reject explanations that are often excessively one-sided and thus wrong.

Definition of Mutual Advantageousness of Hungarian-Soviet Economic Relations

We will examine in the following what economists of the socialist countries, who are dealing with it, think of the principle of mutual advantages. Are the ideas justifiable that claim that Hungary drew unilateral advantages in its trade with the Soviet Union?

One of the starting points of contesting mutual advantage--more precisely, that Hungary enjoys unilateral advantage in its trade with the Soviet Union--is a characteristic of Hungarian-Soviet foreign trade, namely, that the Soviet Union is a net exporter of raw materials and thus has a double disadvantage in CEMA trade. On the one hand, prices of raw materials, because of world prices, were low from 1957 to 1973 compared with the relatively high prices of machines; on the other hand, the capital-intensiveness of units of raw-material exports of the Soviet Union is 3-3.5 times greater than that of the machines received in exchange,

that is, in the economy of the Soviet Union, because of exports of raw materials, 3-3.5 times more fixed assets are tied down than would be the case if it itself were to manufacture the machines received now in exchange.

It was O. T. Bogomolov who expounded this thesis for the first time in the mid-sixties.³ His proposition has since then been adopted by numerous Hungarian economists, without, however, developing or supplementing in some way the analysis and evaluation.

Tibor Kiss also verified this thesis in 1969 with his own calculations.⁴ According to him, Hungarian-Soviet foreign trade resulted in Hungary's saving 2.3, 3.1 and 6.9 billion forints worth of fixed assets in 1955, 1964 and 1970, respectively, and in the Soviet Union's additional investments of 1.6, 1.4 and 3.2 exchange rate forints in the same years, respectively.

In today's Hungarian literature on economics, the most comprehensive, theoretical and systematic expounding of Hungary's unilateral price advantages in its trade with the Soviets was that by Ferenc Kozma who says, "In the final analysis, 40 percent of bilateral relations were advantageous in 1969, 43 percent were disadvantageous and 17 percent were neutral from the standpoint of comparative advantage and disadvantage. In Hungary's trade, Soviet--and, to a lesser degree, Bulgarian--relations are those which may be said to be advantageous. Polish and Rumanian relations are neutral and Czechoslovak and East German relations are disadvantageous from the standpoint of comparative advantage and disadvantage.... The comparative advantage of our trade with the Soviets is, first of all, that efficient processes in the machine industry will be transformed into inefficient raw-material-producing processes involving mineral materials and agriculture...."⁵

Furthermore, "The calculations do not show relations in which both trading partners drew comparative profits from the trade. The explanation for the existing results of calculations, or rather estimates, is very simple. Products of the machine industry are the most efficient and agricultural end-products are the least efficient in all CEMA countries. Raw-material-producing branches in the Soviet Union appear to be relatively efficient (but not in comparison with the machine industry), but less efficient in the other countries. Calculations in comparative advantage and disadvantage thus reflect the price problems of the sixties, namely, the disproportionately high price range of manufactured goods, above all of machines, as opposed to that of less finished products. Every country whose exports were dominated by manufactured products, above all machines, and imports by agricultural and food products, enjoyed a comparative advantage and, inversely, every country which bought mainly manufactured products, above all machines, for raw materials and agricultural products, reported a comparative disadvantage."⁶

Since this statement summarizes earlier surveys of similar nature, we will concentrate in the following only on its theoretical and practical examination. For this purpose, we must briefly outline its train of thought and the principles of calculation.

The first question is what he means by comparative expenses and in what prices he calculates these. Comparative advantage means to him "the effect of comparative expenses based on the principle of Ricardo...with the difference that we make ourselves aware of the decisive influence of the given world market prices on the decisions of the individual national economies with regard to their method of adapting themselves to the international division of labor."⁷ He computes comparative expenses as follows: he defines the indicators of the efficiency of domestic production activity and expresses efficiency by units of all labor investments of the national economy connected with revenues in foreign trade.⁸ It is significant here that he uses units of foreign trade revenues, namely, prices of CEMA foreign trade, for defining comparative advantage. He notes that this calculations are only approximate and thus they indicate only tendency and, to a lesser degree, the scale.⁹ As far as the tendencies of "mutual interests, based on the complementer structures" of the fifties, are concerned, "they manifested themselves, as seen from the side of the more developed economies, in classic comparative advantages.... Because the CEMA countries which began their industrialization became exporters of primarily machines and equipment, they let in their production system the specifically least fixed capital-incentive and apparently most productive (because of high prices in the market) manufacturing industry branches prevail. The huge and increasing volume of manufactured goods caused mainly machine and equipment export production work in our national economy and thus were relieved of advancing capital. All of this yielded a great comparative advantage for CEMA countries that were industrialized earlier. A significant proportion of the advantage was converted to increasing the manufacturing industry."¹⁰

There is a noticeable similarity of principle between the above and Bogomolov's conclusions already mentioned, according to which the Soviet Union's exports to Hungary and other socialist countries are three times as much capital-incentive as the products imported from us would be if the Soviet Union were to replace them with domestic production.

Let us examine, what the main elements of the conclusion are that there was a unilateral Hungarian advantage in Hungarian-Soviet trade and that 40 percent of all bilateral relations were actually disadvantageous for our partner. First, its first premise is that the effectiveness of fixed assets is different in the individual export production activity, this it considers as given. Second, the calculations are based on the ultimate phase, namely, on the delivery of machines and raw materials. Third, the calculations are based on CEMA's foreign trade prices. Let us look at the three components separately and together.

(a) Capital-Incentiveness in Hungarian-Soviet Foreign Trade

Although the calculations regarding fixed-assets economy are correct, it is hardly possible to agree with the conceptual and econopolitical conclusions derived from them.¹¹

The technological-economic factor that the organic composition of the individual branches are varied and thus have large fixed assets is indisputable. From this it is not possible to conjecture, however, that, in a capitalist economy, for instance, the shipbuilder is making a sacrifice in the interest of the textile manufacturer because he advances more fixed assets for production than his colleague. But if we accept that a varied demand for fixed assets means varied efficiency (sacrifice), then it is not understandable why branches with a high organic composition exist (where the capitalist makes a sacrifice by accepting lower efficiency) and why the capital does not flow into branches with a lower organic composition and why technological development is characterized by an increase of the capital's organic composition, if this is accompanied by a decrease in efficiency. The solution was already shown by Marx when, in summarizing the lesson of the Ricardo-Malthus debate, he demonstrated how and why value would be transformed into production price. From the viewpoint of our subject, it follows from this "only" that branches with differing organic composition would have differing efficiency if the center of price movements were to be value and not price, that is, in simple production. In the knowledge of all this, it is surprising that the question of the different economic efficiency of the individual branches, brought about exclusively by technical reasons, is brought up now and in connection with expanded international socialist production.

There is no doubt that, according to statistical data, a 1-forint investment in concrete Hungarian prices (or 1-ruble investment in Soviet concrete prices) will result in different output, for instance, in the pharmacological industry and in crude-oil production. Does this contradict the above?

For an answer, we must briefly define the categories of value and production price and of the center of long-range price movements, i.e., natural price. Quantitatively different is the market price which is characterized, among other things, by the fact that it can only accidentally correspond to the natural price. According to statistical data, differences in output apparent in concrete prices thus do not, on the basis of the theory of work value, repudiate the train of thought above.

Now, then, let us examine the level of the market price and the meaning of the differences mentioned above, without considering the two, qualitatively different, categories identical. They mean that the same unit of investment, made in the interest of different activities, will bring results of different magnitude, which indicates that scarce resources were not optimally distributed. Such a distribution of resources reflects a consciously or inadvertently created economic disproportionality. How does this come

about? Does price make the value of scarce resources higher in socialist economy? Practice shows that it does not; it is just the opposite: the withdrawal of the scarcest resources (the most essential goods in mutual trade) from production seems to be advantageous and not what is unanimously demanded by economic rationale and every-day practice, namely, investment in raw material production. Even if we are not surprised in our directive plan system by such a peculiar indication of prices based on the logic of economic mechanisms, we must not be fooled by statements according to which the interest of the Soviet Union would be to invest its capital not in raw-material production but in such areas that are shown as efficient in calculations based on concrete prices in the national value system.

We must mention in this regard two problems. It is a fact that the Soviet Union is the world's largest producer of raw materials. It is also a fact, however, that its specific use of materials is significantly greater than that of developed industrial countries. For this reason, the problem of raw materials is a bottleneck also for the Soviet internal economy; on the one hand, in a general economic sense, because of an insufficient development of basic output and an increase in material-intensiveness of the social product and, on the other hand, in a regional sense, because the production of raw materials is, already in the tenth Five-Year Plan, being concentrated in western Siberia. It would be wrong, however, to assume that the industrialization of Siberia, because of the large investments, is a great burden on Soviet economy; this undertaking should much rather be viewed as a very successful development of one of the Soviet Union's export branches.

Thus, in opposition to the opinions above, the Soviet Union is encouraged also by its well-understood economic interests, which are independent from but in line with the effects of product and monetary conditions that play a necessarily small role both at home and in the CEMA, to develop its extracting industry although the prices, which were the basis of the calculations of investment rentability mentioned above, may indicate that this is less profitable. This also corroborates our earlier statement that price (and profit) is not an actual result indicator in the directive economic plan system and thus it is not surprising that it cannot be applied satisfactorily to calculations in investment rentability. (It would be then quite useful if the price indicators and the indicators of the tensions in real economy would correspond to each other or would point at the same direction.)

The problem of efficiency (advantage) has been examined, up to now, from the viewpoint of assessing fixed-assets-incentiveness and the role of prices as indicator systems. There is, however, another very important aspect of the problem, namely, the question of returns. That is to say, unilateral disadvantage can be substantially proven only if we examine, in addition to investments, the returns that accompany the given prices in domestic or foreign trade. But for this the expenses of production should be known exactly, which we did not and still do not know. Without

this, on the other hand, both the statement regarding unilateral Hungarian advantages and the calculations which serve as the basis for that statement are hardly acceptable.

The significance of the counterarguments is also corroborated by the newest Soviet studies. Let us first examine the question of crude oil.¹²

Soviet economists computed the regional indexes of national economic efficiency for the main kinds of raw materials and branches of the production industry. These reflect the concrete efficiency relationships between export deliveries of raw materials apparent in given border stations, including total expenses in production and delivery. The national economic efficiency index of crude oil apparent in the border station Csap is shown in Table 1.¹³

Table 1. Regional National Economic Efficiency Index of Crude Oil Exports at the Border Station Csap

Method of Transport	Region of Extraction				
	Tartar ASSR	Bashkir ASSR	Kuybishev Region	Saratov Region	Trymen Region
Rail	1.70	1.28	1.70	1.00	--
Pipeline	2.61	1.74	2.69	1.20	2.22

It can be established, first of all, that the efficiency of the individual sites is very different. Efficiency is influenced by two main factors: by the expenses of transport and by those of production and research. With regard to the former, the opening of the Friendship Pipeline at the border station Csap, which made rail transport obsolete, resulted in a 1.5-1.6-time increase in efficiency through a substantial decrease of transport expenses. The opening of the first Friendship Line, for instance, decreased expenses by 5/6 when compared to transport by rail, and by 1/2 when compared to transport by water. The investment was completely returned by as early as 1966. Savings in transport expenses within the Soviet Union alone amounts to 250-300 million rubles annually.¹⁴

Soviet national economic production expense for one ton of export crude oil--taking into account the tie-up of assets and transport expenses to the border as well--was approximately 9 rubles in 1974-75, and it does not exceed 12-14 rubles on the western border.¹⁵ This guarantees a satisfactory rent compared with the present CEMA price. West Siberian oil is

especially noteworthy. Its exploration and production expenses are higher than the oil in the Tartar ASSR. However, the pipeline made it possible to reduce transportation costs at Csap to less than 1/4 that of the Tatar ASSR,¹⁶ and thus its efficiency supersedes that of the oil from Saratov and Bashkiria.

The system of oil deliveries also makes it possible to build oil refineries alongside the pipeline in the western part of the Soviet Union, which would speed up deliveries of oil products directed to CEMA countries. All of this, however, demands a technological improvement of the oil-refining industry.¹⁷

Let us also look at the efficiency of Soviet machine exports. According to Soviet economists, the efficiency of Soviet machine exports to CEMA countries is steadily improving.¹⁸ This is a result, on the one hand, of the fact that the delivered products are up-to-date equipment and machines and, on the other hand, of a steadily developing specialization with the CEMA countries. The coefficients of the cumulative investment expenditures¹⁹ of the given branches of the machine industry are the indirect indicators of the foreign trade efficiency of Soviet machines; these are computed on the basis of input-output balances of the branches. Imports of products that show a high coefficient of cumulative investment expenditures, means--under identical conditions--a saving in investment costs because of supplementary savings directed to import-substituting branches. The exact reverse is true with regard to exports: here the increase of exports is advantageous in case of a low coefficient of cumulative costs.

In 1972, for instance, the Soviet Union's exports to CEMA countries amounted, with a low coefficient (1-2), to 846.3 million rubles, and its imports to 514.4 million rubles. The advantageous export surplus is thus apparent. Exports of products with high and extremely high coefficients (6-10 and over 10) runs to 401.2 million, and their imports to 770 million rubles. Here, then, there is an advantageous import surplus. Thus the developing structure of machine export-import is, as a whole, advantageous for the Soviet Union,²⁰ for it makes it possible to import up-to-date and complex machines through which it can have significant savings of costs in other economic branches. At the same time, the Soviet Union increases the exports of products with a low coefficient of cumulative investment as a result of the developing specialization.

We must examine two further factors to be able to realistically assess the efficiency of machine production, namely, the regional distribution of the Soviet Union's machine export-import structure, and the balance of export and import (See Table 2).²¹

Table 2. The Soviet Union's Foreign Economic Relations
in the Machine Industry in 1973

Countries	Exports		Imports		Proportion of exports to imports (percent)
	million ruble	its distribution (percent)	million ruble	its distribution (percent)	
To all countries	3,448.1	100	5,377.5	100	0.65
Socialist countries	2,447.7	74.9	3,893.3	72.9	0.66
CEMA countries	2,298.8	66.6	3,809.1	71.5	0.60
Developed capitalist countries	151.3	4.3	1,433.4	26.9	0.11
Developing countries	719.1	20.8	10.8	0.2	66.6

It can be seen from the data that the CEMA countries absorbed or secured approximately 70 percent of Soviet exports and imports. In other countries, mainly in the industrially developed countries, the competitiveness of Soviet machine industry is not yet satisfactory. The effect of this on the mutual advantage in reciprocal trade will be elaborated on in connection with the relations of foreign trade prices.

The other factor is that, since 1960, Soviet machine industry has very rapidly increased its exports to CEMA countries (see Table 3).²²

Table 3. Development of Soviet Machine Exports
to CEMA Countries

Item	1960	1965	1970	1973
Million rubles	372.6	760.0	1,372.9	2,298.8
Proportion in all exports (percent)	36.3	51.6	55.3	66.6

Between 1960 and 1973 the share of the CEMA countries has constantly and significantly increased, and the growth is also very dynamic. This involved mainly products with a favorable coefficient of cumulative investment.

It follows from the many-sided examination of the effectiveness of mutual advantage that neither from the viewpoint of capital incentive, nor from that of returns or comparative investment savings is it with any foundation to talk of the Soviet Union's unilateral disadvantage or Hungary's unilateral advantage. The definition of comparative advantage, according to the present study, has verified the effectiveness of mutual advantage.

(b) Questions of Methodology in Computing Effectiveness

Let us now proceed to the methodological question of the computations above.²³

We think it is a fundamental methodological mistake that the adopted computation is based on final products. For asset incentive is connected not to the final product but to phase activity, thus all calculations in investment rentability and investment effectiveness should be conducted by centering on the added value. Of course it is true also in this view that the individual branches have different fixed-assets incentive. It is also clear, however, that this does not necessarily mean different rentability and efficiency. The calculations--in opposition to the actual situation--sometimes still indicate different efficiency but only because CEMA contract prices, which constitute their basis, do not reflect in all cases the realistic circumstances of demand and supply. Within this framework excess demand does not thus mean excess income, that is, it does not encourage the producer to increase his supply. In other words, one of the characteristic expenses of the maintenance of the present international mechanism is manifest in disparate rentability. This is true even if the countries that participate in the transaction, in a given case, Hungary, wish to maintain this mechanism and if they have, supposedly or actually, an interest in it.

The one-sidedness of the view of the final product is proven by the following definition of the effect of comparative savings of expenses: "...the greater the proportion of highly processed goods is in exports and that of raw materials in imports, the more efficiently does an economy function, since it saves work for society as a whole."²⁴ Such a definition of the effect of advantages, because of the approach according to the view of the final product, causes serious doubts. As we have hitherto proven with our own analysis and with the calculations of several Soviet economists, those calculations are right which are based on phase, added value and input-output, and these are the elements that can approach the question much more subtly. For the increase of effectiveness is not connected to the increase of proportion of highly processed goods in exports but to the low coefficient of cumulative investment expenditures in exports and to the increase of the proportion of products with a high coefficient in imports. Furthermore, both foreign trade prices and, in the case of raw materials, the index of return must be taken into consideration. Thus if we are talking

about the export of a product of a successful exporting branch with rapid returns, then the advantage is not to decrease but, on the contrary, to increase it. With regard to the machine industry and exports of raw materials, both Soviet foreign trade policies and the approach of CEMA programs are based on such considerations.

(c) The Role of CEMA's Foreign Trade Prices in Measuring Advantages

Let us now examine the question of the application of foreign trade prices, which is the third element of the effectiveness of mutual advantage. We have already made it clear that it is not possible to apply calculations of effectiveness based on present prices in foreign trade contracts to relations between two countries, and thus we are going to analyze other viewpoints, namely, the qualifying of effective or ineffective and essential and nonessential products. Ferenc Kozma establishes the following in this regard: "The comparative advantage of our trade with the Soviet Union primarily results from the fact that efficient processes in the machine industry will be transformed into processes of mineral and agricultural raw materials that are inefficient in Hungary."²⁵

Our contract price levels, although they are generally based on the world market price base, also reflect the results of bilateral bargaining which is conducted on the basis of foreign trade balance and is balanced in kind and, consequently, world market prices determine only the direction but not the degree of changes in price. From this it follows that the relationship between use-value and value, which may be the basis for statistical aggregation, is incomplete. In other words, the price does not express the shortage of goods, for instance, that even in the fifties raw materials were essential goods which had to be paid for with essential goods (for example, with medicine, medical instruments, wheat, and meat). There is no correlation between essential or nonessential goods and prices, for the imbalance of demand and supply would reflect in the prices and not in essentiality, or in the effect of the latter, manifest in the rigidity of the product structure. The essentiality of goods is thus a real economic factor and it is more significant than the price that often reflects the results of natural bargaining and the combination of products and prices only subsequently. This is also proven by the agreements in which products are set against products, commodity group against commodity group. Precisely because prices do not express the essentiality or nonessentiality of goods, there is no proof for the assertion that Hungary, contrary to CEMA practice, paid with products not needed by the Soviet Union. Thus there is no reason to doubt the balance of advantage in mutual trade either. For Hungary cannot put its profits from the higher prices of its nonessential (efficient) machine exports into necessary essential (inefficient) imports in bilateral trade, for the fundamentals of structure are defined from the start. For this reason we cannot always buy the necessary commodities with contingent profits from prices (because of the nature of linking goods with prices), but only those which, and only as many as were linked with the raw materials. With regard to prices, this can also be formulated this way: the nonessential

goods received in exchange for "price profits" or "comparative advantage," as quoted above, are not necessarily needed, or if they are, they are needed to a much smaller degree than is reflected by the prices of these goods, precisely because of the contradiction between essentiality and nonessentiality. Thus in this connection, the buyer recognizes more labor input than necessary in the price of import. And in this respect not only Hungary but also the Soviet Union had some advantage. The comparative benefits of the Soviet partner, in addition to those mentioned above, resulted, among other things, from the fact that it was able to sell products that it could not have sold in the world market, or at least not at the same price and thus with the same efficiency. In other words, in exchange for "price losses," it was able to make labor inputs be recognized which other partners would not have recognized, or at least not to the same degree.²⁶ Hungary thus compensated the Soviet Union with the recognition of a larger labor input and thus "paid" for the profits (efficiency surplus) drawn from incidentally higher prices of exports, in addition to the exchange of essential goods with other essential raw materials.

It can be seen--and this is the essence of this discussion--that the mutually and evenly advantageous character of the trade cannot be doubted. What can be doubted is the mechanism of the present bilateral foreign trade itself in which advantages are thus, and only thus, not more unequivocally, defined, that is to say, the logic that it originates which makes the central standard of efficiency necessarily subjective, i.e., which makes existing efficiency the function of estimation or bargaining ability and shortage a function of a monopolistic balance of power with tie-in sales and junction, arising from bilateralism (intransferability of demands) and reflecting shortage only through multiple subjective transfer. The question of advantage in the trade between the two countries may be practically defined by determining how many units of other essential goods will be equal to a unit of essential goods and why, and by creating a similar balance between non-essential goods as well. These categories constantly change, of course, depending on the development of cooperation and on the demands of the individual national economies. This is not only a theoretical conclusion but is proven by practical instances in CEMA's foreign trade.

Those instances reveal many problems originating from the present foreign trade mechanism. For example, cotton, as a raw material, is considered to be an essential commodity and thus its production is not assessed according to efficiency, but cotton fabric made from it as a processed product is evaluated according to efficiency and, consequently, is considered to be a nonessential product. They classify iron ore, coke and heating oil as essentials and their production as non-efficient, but caterpillar-tractors, agricultural and other machines made from them as nonessentials and, consequently, their production and trade as efficient.

It may be established from the above that there is no way to make an objective decision in the question of efficiency. This could be based only on a world market price with a real economic meaning, caused by the competition

between buyers and sellers, by the shortage of goods, that is, by the momentarily existing proportionateness or disproportionateness between the balance of production and demand, and reflected by the conditions of both investment and marketing (demand). In this case the terms of trade would change according to objective laws and within objective limits, making allowance for advantages and the rate of exchange, national efficiency indicators would be determined by labor investments, and comparative advantages drawn from their deviation by natural conditions, by the increase of productivity, whose degree varies from branch to branch and from country to country, by a relative factor supply, etc. The present international mechanism of cooperation does not yet meet these requirements. Thus the argument is not acceptable that the equality of advantages in trade is contestable but the mechanism itself, together with all of its contradictions and problems, is acceptable.

In my opinion, the basis of the scepticism about the mechanism of foreign trade is neither the unequality of bearing the burden, nor the failure to materialize mutual advantages but numerous other negative effects originating from them, effects which have already been thoroughly analyzed in the economic literature of the past 10-15 years. We will mention here only a few of them. We may accept only with reservations the classification of the Hungarian machine industry as generally efficient and the statement that Hungary traded efficient machines with the Soviet Union for nonefficiently produced raw materials. For it is well-known that the CEMA countries did not in all cases deliver to each other technology that was of world market quality, most modern and most efficient. This is one of the problems, by the same token, of Hungarian-Soviet trade and economic relations as well, and one of the reasons for a not always satisfactory world market competitiveness of the CEMA countries. We cannot say either, for example, that the development of the Hungarian machine industry is not asset-incentive when we acquire modern technology partly with capitalist currencies.

The things said above are, of course, not only characteristics of Hungarian-Soviet cooperation but also the most general problems of the present mechanism of CEMA cooperation, existing in almost every bilateral CEMA-relation. These are hardly connected only with the lesser efficiency of raw-material production or with the greater efficiency of the processing industry. It is also evident that the present cooperational mechanism brings up the question of measuring efficiency not only with regard to the Soviet Union's raw-material-extracting investments but also with regard to many other areas such as the creation of international management organizations and interest in them, or the development of specialization and cooperation, or the creation of interest in the further development and proliferation of imported technology, or, most generally, even the appraisal of large- and small-scale advantages drawn from international division of labor and the definition of efficiency.²⁷

With reference to the definition of mutual advantage, our final conclusion is that foreign trade advantages are not realistically manifest in the present prices of the CEMA market--or in those in Hungarian-Soviet relations. These settlement prices are not suitable for supporting such economic analyses or for showing the mutual comparative advantage by computing investment rentability; they are not dependable in determining investment savings or extra spending resulting from bilateral or international division of labor. From this it follows that calculations, directed to show the differences in advantages and efficiency for the parties of Hungarian-Soviet trade, or the contestation of the effectiveness of mutual advantage, are only technically, but not in their meaning, correct.

Conclusions

The principle of the effectiveness of mutual advantage is the unshakeable foundation of our economic cooperation. It can be in the interest of no socialist country to strive to gain unilateral advantage in mutual trade. Our examination of this may be summarized by the statement that there were, and there is even today, mutual advantage in Hungarian-Soviet economic cooperation, as opposed to those views which ascribe unilateral Soviet or unilateral Hungarian advantage to this cooperation.

In my opinion, our trade is based on world market prices, with appropriate corrections according to our mutual interests. The internal evaluating system of efficiency is different in the two countries and, because of a diversity between the two national economic mechanisms, have not, and still are not, developing with enough coordination, as regards economic assets (rate of exchange, duties and other financial and currency factors). Precisely for this reason, the principle of mutual advantage is felt only as a tendency and as a result of several components (price advantage, terms of trade, price levels, rentability, efficiency and policy factors, and other economic and noneconomic factors). The combined effect of these factors should be reflected in both domestic and foreign prices. We have seen, however, that prices are not suitable for this at present and thus the examination of certain selected components is economically unfounded. For this reason, mutual advantage is more a qualitative rather than a quantitative category.

It is a justified requirement in foreign economic relations that they should, as much as possible, contribute to economic growth. Hence every country strives to gain price advantages and to constantly increase its revenues without interfering with each other's interests, and this is a natural consequence of the incentive coming from the production of goods. Thus the striving for allowable price changes and modifications of the terms of trade, from the standpoint of both each individual country and the community as a whole, is not to be cast out; indeed, its dismissal would be a serious mistake.

All of this also brings up the need to examine and modify our foreign contract prices and to level the domestic price systems with one another.

Experience shows that the member states are trying to release the tensions caused by "deficit" (shortage) commodities by applying essentially extraprice methods (among other things, up to about 1976, with so-called investment contribution and, since then, with so-called target deliveries) instead of taking advantage of the possibilities allowed by the principle of pricing (incentive prices, for instance) or increasing the economic role of prices. That prices have hardly any role in the decisions is also shown by the fact that the investment contribution remained essentially unchanged when the price of certain raw materials was skyrocketing in 1974-1976.

The conditions for multilaterally "buying up" a quotient of "shortage" commodities within CEMA that are increasing according to bilateral demands have not yet been created as far as the development of production or an effective international settlement of currency is concerned. In my opinion, the investment contribution or the recent introduction of the present form of target deliveries--even in connection with the given degree of efficiency of socialist contract prices--is only a temporary solution.

The present contract prices--because of unclarified questions of efficiency with regard to domestic price systems--do not stimulate enough the broadening of international specialization and cooperation within the CEMA. The concrete processes of economic cooperation, in these manifestations of international relations, are being transferred from the field of foreign trade cooperation more and more to the sphere of production. Thus it is precisely these areas where problems are the most apparent, caused by a separation of present socialist foreign trade prices from the conditions and fundamentals of national production, from the real circumstances of demand and supply and, to a different degree in each relation, from capitalist world market prices, and by a disorienting effect of all this even on the development of national production.

In the present system of economic control and management of most socialist countries, it is practically impossible to connect domestic and foreign prices with a rate of exchange that indeed has an active effect, and this will remain so for a long time to come in the given concept of the mechanism. Thus the creation of an independent regional price system and the development of a drive in foreign exchange based on a realistic definition of comparative advantage is not to be expected for the time being. Foreign trade must continue on the basis of the price documentations of the world market. Foreign trade prices and the present national price system do not make it possible for a uniformly defined economic efficiency to serve as a standard in organizing the socialist division of labor.

With reference to the main forms of the development of the CEMA countries economic cooperation, we may classify the adaptation of capitalist world market prices--cleared according to the principle of pricing--as unsatisfactory. The new form, the so-called adjustable base of prices, is not completely satisfactory either for it is able to reflect less and less the real conditions of production, demand and supply within CEMA and the correct orientation of production resulting from them. Precisely for this reason, improving the present CEMA principle of pricing, adapting the capitalist world market prices more consistently, increasing the factors of flexibility along with price stability, and constantly "trimming" the deficiencies in practical pricing, are acceptable solutions only on a relatively short range.

On a longer range, in my opinion, the most effective method would be to develop a regional price system for CEMA in which a gradual combining of domestic and foreign trade prices would be realized on the basis of world market prices because this way direct company interests would be enforced within a unified system and a correct orientation of production would be realized in CEMA cooperation as a whole. This way an approximately identical system of efficiency assessment--keeping the same internal conception of the mechanism--could be created, replacing the different national value systems of the present, the essence of which being that the basis of labor input would be uniformly appraised in every member state. On this basis, it is already possible to quantitatively demonstrate the order of magnitude of comparative advantages gained from increased production and from different natural and other conditions, and it becomes possible to mutually evaluate the calculations made on the basis of domestic and foreign prices. Meanwhile, however, we may not allow any violation of the principle of mutual advantage, for every such concession would lead to unexplainable and both economically and politically inadmissible incidents.

FOOTNOTES

1. This debate took place in Hungary in the sixties.
2. Let us illustrate this with a schematic example. Let both exports and imports be 1,000 forints each in a given year. Let the price increases in exports in comparison to the previous year be 11 percent, and those in imports, 7.2 percent. The improvement in terms of trade is thus $1,110:1,072=1.036$, that is, 3.6 percent. As a result of the price changes, the nation's additional income from exports in the same year will be $1,000 - (1,000 \times 1 : 1,110) = 100$ forints and it must pay $1,000 - (1,000 \times 1 : 1,072) = 67$ forints more for imports; national income will thus increase by $100 - 67 = 33$. Let the exports of the given year be 1,000 forints and imports 1,500 forints with the same price changes as above. The additional income in exports is again 100 forints, but now $1,500 - (1,500 \times 1 : 1,072) = 100$ forints more must be paid for imports.

In this case, then, the 3.6 percent improvement in the terms of trade does not quantitatively affect national income. And if the volume of imports were more than 1,500 forints, its effect on national income would have been negative. It could similarly happen that the active trade balance partly or totally compensates for the deterioration of the terms of trade.

3. Vid. O. T. Bogomolov, "Tyeoriya i metodologiya mezhdunarodnovo sotsialistyicheskovo razdyeleniya truda." *Ekonomika*, Moscow, 1967, p 15.
4. Vid. Tibor Kiss, "Nemzetközi munkamegosztás és Magyarország gazdasági növekedése" [International Division of Labor and Hungary's Economic Growth], Kossuth Könyvkiadó, 1969.
5. Ferenc Kozma, "Gazdasági integráció és gazdasági stratégia" "Economic Integration and Economic Strategy], Közgazdasági és Jogi Könyvkiadó, 1976, p 200.
6. Ibid., pp 193-194.
7. Ibid., p 70.
8. Ibid., p 70.
9. Ibid., p 189.
10. Ibid., p 188.
11. Many studies which may be used for criticizing this line of thought may be found in Hungarian economic literature, among others (without any claim to completeness), in the works of Bela Csikos-Nagy, Antal Matyas, Ivan Szegvari, Laszlo Csaba, Sandor Ausch and others.
12. Vid. more in detail in J. M. Pavlov (ed.), "Regionalniye Problemi Ekonomicheskoy Intyegratsiyi SSSR v Systyeme Stran SEV. Nauka", Moscow, 1975.
13. Vid. detailed calculations in Pavlov, op. cit., pp 64-66.
14. *Novoye Vremya*, 1972. No 12, p 16.
15. V. B. Savitskiy, "Ekonomika nyeftyannoy promishlennosti. Sept. 1976, p 38.
16. Pavlov, op. cit., p 67.
17. Ibid., p 68.

18. Ibid., p. 68.
19. The coefficient of the cumulative investment expenditures is the sum that is equal to the total necessary investments in the national economy as a whole, in addition to direct investments amounting to 1 ruble in the given machine industry branch, that is to say, it is equal to the total investment that are necessary in the other branches of the national economy for beginning production in the given production branch.
20. Ibid., p 132.
21. Ibid., p 127.
22. Pavlov, op. cit.
23. Vid. Ferenc Kozma, op. cit., p 70.
24. Ibid., p 73.
25. Ibid., p 200.
26. Vid. Table 3 that shows the foreign economic relations of Soviet machine industry.
27. Vid. a detailed analysis of this in Kalman Pecsí, "A KGST termelesi integráció közgazdasági kérdései" [Economic Questions of CEMA's Integration of Production], *Közgazdasági és Jogi Könyvtár*, 1977, pp 302-331.

LAST YEAR TARGETS OF FIVE-YEAR PLAN SUMMARIZED

Prague SVET HOSPODARSTVI in Czech 13 Dec 79 pp 1, 2

[Text] The proposed 1980 plan for the development of the national economy is based on the policy set by the 15th Congress of our party, on the basic concepts of the Sixth Five-Year Plan and the comprehensive assessment of its implementation by the 11th CPCZ Plenum in March of last year.

Its preparation was based on the critical analysis of the state of our economy, the principal needs of economic and social development and the resources available for meeting them. The issue is to accomplish in the last year of the Sixth Five-Year Plan all that is necessary for the strengthening of the positive trends and at the same time improve the chances of solving our long-range developmental problems. The preparation of the Seventh Five-Year Plan was based on our own past experience and the development of the world economy.

The analysis and assessment of favourable trends and of the unresolved shortcomings and problems indicates unmistakably the direction in which our joint efforts must be applied in the coming year and what problems state, party and economic organs and organizations and all the working people must concentrate on. The objective is to develop our economy further in line with the policy of the 15th CPCZ Congress by increasing primarily its overall output, efficiency and the quality of all work.

--Taking into consideration the internal and external factors which will bear on the development of the national economy next year the plan calls for a 3.7 percent increase of national production which exceeds this year's expected figure by 1.1 percent. The gross national product is expected to increase by the same percentage. This increase is expected to be accomplished by 91 to 92 percent as a result of a 3.2 percent rise in labor productivity. It must be borne in mind that a 1 percent increase in the national product next year will represent Kcs 5 billion while 10 years ago it was only Kcs 2.9 billion.

--Of the overall 4 percent increase of industrial production next year the plan counts on a preferential 5.8 percent increase of production in the engineering sector. Special emphasis is placed on increasing the export

volume of industrial goods by 6.8 percent. Agricultural production is also expected to rise by 7.2 percent over this year's figure. The planned building construction volume increase is 3.6 percent.

--In view of improved availability of labor in some areas of Slovakia in 1980 industrial, building construction and agricultural production is expected to grow faster in the SSR than in the CSR. This will improve the utilization of existing labor reserves and increase the economic potential of the entire CSSR. While national production will rise in the CSR by 3.2 percent, in Slovakia it will increase by 4.7 percent and raise the Slovak proportion of the CSSR national product above 30 percent. This is 1-1/2 point more than it was in 1975.

--In the interest of the balance of payments with foreign countries the plan stipulates a slower growth in national income than in its formation. The national income will increase over 1979 by 3.7 percent but only 2.2 percent will be used. This calls for the most purposeful and efficient utilization of these resources especially in the area of capital construction which will continue to increase slower than in 1979.

--The income of the population is expected to increase by 5.3 percent to Kcs 361 billion. The number of workers in the national economy will increase by 0.7 percent, expenditures for social welfare by 7.1 percent. As a result of the adjustment of retail prices carried out this year, the cost of living will increase by about 2.9 percent on the average. The actual rise in real income of the population in 1980 will be 2.2 percent. The average nominal wages of workers and employees will be Kcs 2712 a month and exceed this year's expectations by 2.8 percent.

--Retail trade turnover will increase by 3.4 percent and stores of merchandise in stock will increase by Kcs 4.5 billion. Both production and trade are faced with the urgent task of improving the structure of market funds to increase the sale of industrial goods faster than of foods.

--Expenditures of other than production sectors will increase by 3 percent over this year's level. The amount will approach almost Kcs 79 billion. This volume of expenditures will permit gradual implementation of the new educational and instructional system, health care etc.

--Next year almost 141,000 apartments are to be built i.e. 11 percent more than this year. A considerable part of them, namely 53,000, will be used for recruitment and stabilization of labor forces in specified enterprises and locations.

--The 1980 plan focuses on the reduction of the specific consumption of fuel and energy raw materials, metals and other supplies. The relative savings in the production of power, for example, are expected to amount to 1 percent and perhaps even more. Further--calculated per unit of national product--the consumption of ferrous metals is expected to drop by 3 to 3.5 percent, of

copper by 1.2 percent, of zinc by 3.5 percent, wool by 1.5 percent, cotton by 3.7 percent, cow hides by 5.8 percent etc. Essentially, the tasks are half again as ambitious as those of recent years.

--At the same time, to increase the pressure on achieving material savings, more stringent tasks were assigned in the financial plan: the proportion of material expenditures in so-called adjusted outputs will be reduced by 0.65 percent compared to 0.46 percent, the actual average reduction achieved annually between 1976 and 1979.

--The conditions for fulfilling the tasks of the CSR science, technology, research and development base for 1980 are relatively favourable. The volume of other than capital means for the development of science and technology are expected to amount to Kcs 16.5 billion.

--The rapid development of science and technology in the world does not permit us to keep pace in all sectors and directions by our own efforts. Intensification of cooperation with socialist countries and especially with the tremendous scientific and research potential of the Soviet Union offers us great possibilities for raising efficiency of our scientific base. More than 1,000 tasks were selected by bilateral consultations in preparing the plans for the development of science and technology including 550 new themes with the Soviet Union. These consultations resulted in a plan of scientific and technical cooperation of CEMA member states encompassing 300 tasks. Our organizations will participate in the solution of 80 percent of these problems and gain thereby access to the exploitation of a broad spectrum of findings of benefit to the CSR.

--The capital plan for the next year generates pressure by its basic conception primarily by reducing the start of new construction projects by 20 percent--from the previously contemplated volume of Kcs 60 billion to 48 billions. At the same time it directs to concentrate delivery capacities on projects under construction and new starts to increase the volume of work to be accomplished on these projects by 6 percent. The overall volume and capital investments without action Z and private housing construction is financed by the plan with Kcs 140 billion in accord with the utmost potential of the economy which is 2.4 percent higher than this year's. Acceleration of the rate of progress on nationally important large projects calls for economy with available means and for avoidance of unnecessary dissipation of capacities on other projects.

Pooling capacities to complete important capital projects is designed to achieve a reduction of the volume of means bound up in uncompleted projects. At the present time their volume equals almost the annual volume of investments. Faster completion and start of capital projects will make it possible to increase production proportionately.

--Building construction organizations must concentrate their capacities also more consistently on key capital programs. With an overall increase of

construction work by 3.8 percent the volume of projects costing more than Kcs 2 million must increase in the CSR by 8.7 percent and in the SSR by 6.2 percent. The 1980 plan also directs to increase the volume of work on capital construction in the North Bohemia kraj by 5.1 percent, in Prague by 5.9 percent and in Bratislava by 7.8 percent.

--Foreign economic relations codetermine and influence ever more markedly the conditions in which our economy is developing. Practically all parts of the 1980 state plan allocate greater means and resources to the basic task of raising the export potential of our economy. The rate of increase of exports is expected to exceed that of imports.

In relations to the USSR and other socialist countries the 1980 state plan counts on continued intensification of economic ties. The export to socialist countries will increase in comparable prices by 7 percent, imports by 6.8 percent. The export of engineering goods is expected to increase by 11 percent.

With respect to relations with nonsocialist countries the 1980 plan calls for attaining the maximum possible growth rate in exports and export prices. An export increase of roughly 10 percent is foreseen for 1979 with more than two thirds consisting of engineering products and consumer goods.

Imports from nonsocialist countries are expected to increase roughly by 6 percent over this year's volume. The potential necessary increase in foreign exchange required for imports will depend on increasing foreign sales. Of course, this makes it necessary to pursue at all levels of management and in all sectors of the economy a policy of utmost economy calling for accelerated improvement in the utilization of imported raw materials and supplies and for their replacement with domestic resources.

--The 1980 plan is based on the continuing trend towards a solution of the fuel and energy problem. Next year the overall primary fuel and energy resources will increase by 2.9 million tons of specific fuel i.e. by 2.8 percent. Given the practice of strict economy conditions will be favourable for meeting the essential necessities of the economy and the population.

The fulfillment of the coal mining plan to the tune of 124.4 million tons including 96.5 million tons brown coal and lignite will continue to be of vital importance. The difficult task facing the coal industry increases at the same time the necessity of improving considerably mining readiness in both deep and surface mines.

The overall power resources include 40 percent of nuclear power which testifies to the attention paid its development by the CPCZ Central Committee presidium.

Next year 1272 MW of new power generating capacity are expected to come on stream. Even though conditions will be favourable for the uninterrupted supply of power the effort for economy in power consumption must not weaken. On the contrary, we ought to attain the planned increase in production next year with generally lower than planned increase in the consumption of power and fuels.

--The consistent fulfillment of tasks in the engineering sector not only by production volume and deliveries but primarily by structure, technical standard and quality, and by satisfying the need for spare parts and services will be of key importance in fulfilling the goals of the state plan. With an overall 5.8 percent increase in the engineering production next year the plan foresees a 10 percent increase in export deliveries and a 5.2 percent increase in market funds.

In the metallurgical sector crude iron production is expected to increase by 6.7 percent, steel by 5.5 percent and rolled steel by 5.3 percent. This increase is predicated on the continuing construction, reconstruction and improved utilization of capacities in our metallurgical industry.

In the consumer goods industry the state plan foresees a 3.9 percent increase in production next year. In this five-year plan the consumer industry has on the whole successfully mastered difficult tasks not only on the domestic but also in the export market.

In developing agricultural production next year and also after 1980 the specified program increasing self-sufficiency in food and agricultural raw material production adopted by the 15th CPCZ Congress and the 13th Central Committee plenum will have to be implemented.

Developments in the Sixth Five-Year Plan but mainly this year demonstrate that the attainment of a balanced growth of plant and animal production and a need to reduce the volume of imported feeds are the most urgent tasks. Resumption of dynamic growth of all agricultural production on this basis has become the principal objective of the 1980 plan.

The volume of crop production foresees an increase of 16.5 percent over this year's gross underfulfillment of the plan which is a 4.4 percent increase over 1978. Good results have already been achieved in grain production, the crucial part of crop production, and we can build on those results. In 1977 10.3 million tons were harvested, in 1978 the hitherto highest yield of 10.95 million tons was harvested. Therefore, the objective of the plan--to harvest 11 million tons--is not an easy one.

--This year the necessity of improving transportation has moved to the forefront with great urgency because the uninterrupted functioning of the entire national economy depends on it. Therefore, the ministry of transportation and national committees must pay much greater attention to the comprehensive development and the efficient functioning of the entire transportation system than in the past. The gap between the demands on transportation and its

capacity must be reduced also by a more even distribution of transportation demands over the entire year and non-working days.

--The most urgent tasks deserving priority are:

1. Basing production growth consistently on input limits stipulated in the plan, especially in the case of fuel and energy resources and basic materials; we must stop counting on the possibility of increasing their supply and create thereby favourable conditions for their most economical and rational utilization. From this viewpoint it is most important to practice strict economy in the consumption of oil products especially in transportation and conserve other types of fuels and energy and energy-intensive raw materials and use feeds and other, especially imported raw materials and supplies, with the utmost economy and to best effect.

2. Fulfilling the tasks of the export plan by raising consistently the quality and technical standard of the products, of service and spare parts by observing delivery deadlines and by meeting other prerequisites which determine the competitive position of Czechoslovak products on world markets and thereby ensure the maximum increase in export prices.

Together with the urgent need of fulfilling the export plan measures must be specified consistently for decreasing import requirements of the developing economy by substitution with domestic production, by reduction of contradictory exports and imports etc.

3. Taking measures designed to fulfill the development plan of agricultural production. Specifying the central feed fund on a quarterly and monthly basis and ensuring that the allocated quantities are not exceeded.

4. Practicing utmost economy in the allocation of labor resources and raising labor productivity to improve efficiency of development of the Czechoslovak national economy and achieve corresponding savings in the numbers of management, administrative, technical and economic personnel.

5. Increasing markedly the economy in allocation of public funds by budgeting organizations to slow down the growth rate of financial expenditures in the service area according to the plan.

6. Observing the planned work progress and delivery structure in individual capital investment categories primarily to meet the completion deadlines of construction projects designated as priority projects in the production sector and those nearing completion and thereby bring on stream these capacities within planned deadlines. Channeling the specification of small investments and machines not included in the construction project budget on a priority basis towards the achievement of overall modernization.

7. Fulfilling mandatory deliveries into market funds and focussing on the resolution of structural and assortment problems existing on the domestic

market, adjusting deliveries flexibly in accord with changing demands made by the population and endeavouring to reduce the number of products in short supply on the domestic market.

8. Using financial tools and credit policy to better effect in meeting the planned production structure and achieving greater flexibility of production to meet changing demands.

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BREAKDOWN OF GIANT EXCAVATOR DISRUPTS COAL PRODUCTION

Prague RUDE PRAVO in Czech 20 Dec 79 p 3

[Article by Ivan Soukup, Josef Rericha & Josef Trhlik: "The Struggle to Keep Heavy Equipment Operating"]

[Text] In November, the shortfall in the removal of overburden in the North Bohemian Brown Coal Basin exceeded 14 million cubic meters. The state of unpreparedness of the extraction capacities intensified, and was very critical at the Maxim Gorkiy Large Scale Open-Cut Coal Mine of the Julius Fucik Mining Combine in Bilina, where the TC-3 industrial extraction unit was to have extracted 12.5 million cubic meters. As of 15 September, when 6.5 million cubic meters had been extracted, it was already clear that the remainder would not be removed.

On that day, there was a breakdown of a K 10,000 excavator, which was caused by the destruction of the right boom extension pulley wheel. An apparent trifle, which shook up the entire basin quite a bit nevertheless. The excavator has a total of 61 pulley wheels, and the aforementioned defect gave rise to well-founded fears, which were expressed even before it was installed, that even the latter pulley wheels would withstand the load. However, we did not anticipate the event that took place in mid September, when the extractive giant stopped operating.

The Right Idea

An answer should be given as to whether the considerable risks of incidents that cause heavy equipment to be taken out of operation are worthwhile. Wouldn't it perhaps be better to keep on using excavation equipment that might not have such a high output, but would have greater reliability? The method of heavy-machinery extraction that we have chosen for removal of earth and for surface mining of coal is also being implemented in other parts of the world. In the same way that large furnaces for smelting iron are being built and large-capacity transport aircraft and ships are being built, etc., the ideas of heavy equipment also pursue the goal of economic efficiency. With constantly greater depths of occurrence of the strata which the surface extraction of coal is aiming for, with lower outputs, there

would be a need for more overburden faces and therefore, a larger number of machines, transport equipment, and above all, people. Therefore, the installation of heavy equipment is totally correct. What matters here is for optimum guarantees to be created for the reliable operation of such units.

Experiences to date have confirmed that numerous difficulties occur mainly where they are least expected. The most important and most complex machine components operate without major problems. In the past weeks, but also during the previous years, when the TC 3 industrial extraction unit was prepared for production and then was installed in the North Bohemian Brown Coal Basin, we had the opportunity to familiarize ourselves with a number of important factors, which caused difficulties later on in its operation.

Such complex equipment as the K 10,000 excavator without doubt requires its own set time for breaking in thoroughly. But why is this being brought up at the end of 1979? Let us recall that the Government resolution No 358/71 had set the start of test operation for 1975. This was not fulfilled. After all circumstances were considered a later deadline of 31 December 1976 was set. Operation did not begin even at the later date, and even the resolution of 1977 was not realized. According to this resolution, the industrial extraction unit was to have removed its first cubic meter in test operation on 1 November 1977. Operation did not begin until the end of June 1978.

It is impossible to get rid of the impression that each postponement of the original deadlines is the reason for today's difficulties. For in previous years, there was not such great pressure for increasing the extraction of coal as exists currently. Certainly the producers of the equipment could have taken the over-all testing out of the heavy equipment in greater stride. This means that the setting into motion of the thousands of tons of the 58-meter giant, many components of which are the single-design results of the research activity organized for the purpose of putting together this excavator, was in reality not an every day occurrence. Such afterthoughts are of little help in the places where the inoperative K 10,000 excavator stands. Thus, it is necessary above all, to carry out the required repairs of the machine on the basis of timeliness and quality. The most important of these is the replacement of the rollers. Serving as a warning is the nearby overburden, under which are coal deposits, from which 1.5 tons of coal have to be extracted in the coming year.

Even the most modern machines cannot get along without pulley wheels, even when they perform very simple functions. Cables and pulley wheels on heavy extraction machinery not only make vertical movement possible, but also are an important component of the entire complex with which the machine is balanced and changes location when needed. In short, the pulley wheel has an irreplaceable role.

In the K 10,000 excavator, which has a number of innovations and non-traditional solutions, problems were more likely expected with the hydraulic system of the walking undercarriage, the electrical installations, etc. Therefore it is quite a paradox that after centuries of use, the pulley

wheels became the main cause of headaches, not only in the North Bohemian Brown Coal Mines, but above all for the producer, in this case, the machine builders of Vitkovice.

During the half-way point of September, during the course of maintenance of the machine, a mechanic heard impact noises in the machine. He looked upward and saw that something was wrong with the pulley wheel in the central section of the excavator. The machine was shut down immediately, because continued operation would lead to extensive damage to the machine and would threaten the safety of the crew. Commissions began to meet, experts conferred, and the teletypes and telephones to Vitkovice were operating non-stop.

After much deliberation, the producer offered to change four pulley wheels and to furnish the others with signalling equipment, which would indicate abnormalities in the pulley blocks. This was a stop-gap measure. However, they began work on it in the North Bohemian Brown Coal Mines because they were convinced that only in this way could the overburden removal be continued and the great shortfall that had developed be overcome.

After several days, when the machine was at rest and the preparations were being made to repair the four pulley wheels, a lineman found another cracked weld seam. The hypothesis of the existence of more bad pulley wheels began to be borne out. It was necessary to replace all the wheels. The initial consideration had foreseen the K 10,000 down time from production as 5-6 months, which meant a serious threat to the stripping work and difficult consequences for the extraction of coal in the coming year. At stake were more than 1.5 million tons of high quality coal.

The areas around the K 10,000 excavator remind one of a gigantic anthill. Even the oldest observer cannot remember ever seeing so many people and auxiliary equipment around the heavy machine. In addition to the installers from Vitkovice, planners, and specialists from the Hutní montáže [Steel Mill Installation] and other organizations are there. The excavator crew also participated in the work.

Everybody must be wondering if such commotion and rush is necessary. Couldn't this have been avoided earlier? It is curious that there is a person who had calculated beforehand the damaging of the remaining pulley wheels. Engineer Oldřich Zima, Chief Mechanic of the Julius Fucík Mines in Bílina, in his calculations, drew up an assumption of the number of stress cycles it would take for the first pulley block to break. The calculations are roughly in agreement.

However, let us go back 10 years. Before the new excavator was submitted for planning and to production, there was much discussion on the weight of the machine, with respect to the fact that it was going to be installed in areas with undermined terrains. In the face of widespread comparison systems (with the participation of 60 specialists of various professions), it was decided to use the know-how from the KU 800. This was recorded in the

minutes from the comparison council dated 23 April 1969. Pulley wheels welded from several parts, which guaranteed low materials outlay, were used for the KU 800 excavator. This was to play an important role in the building of the K 10,000 as well.

The first warning came about in 1978, when the pulley wheels cracked on the KU 800/1 excavator. The miners could not understand this, since on the old machines, these parts usually endured the operation of the mechanism without anything going wrong. At that time, no one was concerned over the pulley wheels either. The Julius Fucik Mines, however, requested the authorized tests of the Ministry of Fuel and Power concerning testing of the pulley wheels for the K 10,000 excavator. We read the records of the defectoscopic tests. Four pulley wheels were checked out in 1976, before they were installed. The following year, another seven were tested out and were installed on the excavator. All ten wheels had flaws, nevertheless, they were installed on the machine. At that time, the specialists expressed doubts as to their quality.

In 1977, a group was sent from Vitkovice to the North Bohemian Brown Coal Basin to conduct a defectoscopic investigation. However, this was not done accurately. The machine builders later gave several work places the assignment of testing what the pulley wheels could withstand. Many teams were assigned to this. It is a pity that such care was not exercised in Vitkovice to production and quality control. We found the conclusion in the record of 19 August 1977, where it was stated that the pulley blocks would have a shorter service life. It was also stated there that planning report No B3473-5 for strengthening the pulley wheels had already been worked out. The wheel sides will be 10 mm instead of 7, and the welds would be according to new calculations.

On the basis of many meetings, it was decided as a compromise that the replacement of the wheels would be effected at the time of replacement of the cables--roughly after 2 years of operation. The breakdown took place on 15 September. What were the causes of the inadequate quality of the pulley wheels. In addition to the design concept, the workmanship was also poor. The machine builders regarded the pulley wheels as regular production, without special quality control, perhaps X-ray, and ultrasonics, etc. More than one weld seam, in this case, went completely by the adjacent surface in two sections. We're not trying to beat around the bush. The breakdown was also the fault of slovenliness, of poor working habits... This refers not only to the welders, both also to those people who manage and oversee the work.

Actions Shall Be Decided Upon

Even during the visit to the North Bohemian Basin, we observed that Vitkovice people were flinging themselves into the struggle for the accelerated getting into operation of the K 10,000 with all their might. Adolf Zurek, Chief Designer of Vitkovice has his work station directly in the area where the repairs are being conducted. The continuous bustle that has already

been prevalent on the machine for several weeks is evidence of the determination to correct the errors.

For years, Vitkovice has been the production unit that has borne the main responsibility for the operation of heavy extraction machinery. It has a lot of work waiting for it. Among the dozens of extractive machines in the basin, the K 10,000 machine, in addition to the KU 800 conveyer belt excavators at the Maxim Gorkiy Large-Scale Open-Cut Coal Mine, is the central problem of the entire North Bohemian Brown Coal Basin.

"Why did the breakdown occur," we whispered to representatives of an economic production unit in Vitkovice. In discussions that lasted several hours we acquired innumerable documents and opinions. It must not be forgotten that such a labor-consuming piece of equipment requires a certain time in order to "get all the bugs out of it." With an extensive structure of more than one million different components and parts from which the machine is assembled, it is impossible to eliminate errors beforehand on the designer's drawing boards or even through individual tests.

Many Vitkovice workers were working on the process when the machine already had its stripping plan set up. The preparation of the extractive capacities of one of the most important North Bohemian large scale open-cut mines depended on this plan. Their cooperation with the base, however, developed in full measure this year. All the services and specialists of Vitkovice were at the disposal of the basin, no matter whether it was Wednesday or Sunday.

For accelerating the completion of the test production, four complex efficiency brigades were set up, which kept track of and adjusted the operation of the main assemblies of the K 10,000. Certain supplier organizations also met us half way. Deserving of appreciation above all are the Julius Fucik Electrical Works in Brno, which itself made extraordinary efforts in solving one of the key problems--the provision of vacuum contact switches and their installation on the heavy machine. The same idea for the suitable fulfillment of buyer-seller relations also must be manifested by the rest of the organizations, so that their equipment, which is installed on extractive machines, demonstrate the proper reliability.

The decisive share of responsibility, however, is indisputably borne by Vitkovice. For more than a century they have been committed to a tradition and to the good name of the ensuing products, which are well known not only abroad, but also at home. Of course, a number of machines on which good results have been attained are operating with unusual reliability in individual basins, and machines which are equipped for still more demanding results have to be put to work in them. In reality, it was incomprehensible why it was possible to master the technology of the most complex components, and then to founder against components, the reliability of which had been under no doubt whatsoever.

We Shall Redress Our Error

When it was decided to replace all 61 pulley wheels on the K 10,000 excavator, a situation occurred in Plant 5 of Vitkovice--the Klement Gottwald Metallurgical and Machinery Plant--as had never been remembered to now. If it is said of certain orders that they are of super priority, everything else had to give way to the production of pulley wheels, and the work was done without regard for time. "The production did not stop either day or night, on Saturday, and even on Sunday," noted Engr. Viktor Trojek.

He was right. In the machine shops of production line 520, one could not tell that it was Saturday. Miroslav Jezisek was turning one pulley wheel on the first vertical boring mill and another was being machined on an adjacent machine. These wheels weigh less than a few kilograms. The wheel, gleaming like silver, that is mounted in the boring mill, weighs over 6 metric centners. Certain pulley wheels--rope pulleys--as they are called--have a diameter of up to 1.75 meters. As can be seen, the components of the gigantic machine K 10,000 are no playthings. "How much is it worth?" we asked production economist Vlastimil Sedlacek. He thought it over for a moment and said: "I guess it is comparable to the cost of an automobile."

On the door of the tool case at the 0 second rotary boring mill there are 27 numbers written downward in sequence with chalk. The turning of pulley wheels has not stopped at all on this machine. "We have to make up for what we have botched up," added experienced lathe machinist Vlastimil Pelucha.

"How come we? objects the economist. "Why, we're not the ones who have to shoulder the blame."

"What does it matter at this time who welded what, which workshop did this, which designer took part in that. The criticism falls on Vitkovice as a whole," the lathe machinist replied categorically. "In short, we produced a heavy machine on which flaws were found." From every word it is evident that the people are aware of the importance of the heavy machine for the extraction of coal.

What will be the qualitative difference in these pulley wheels as against those which are being discarded? "A great difference," replies lathe operator Pelucha, without giving it a thought. "First of all, they are reinforced. They are made of 10-mm plate instead of 6-mm. But the most important thing is the high quality of the welds; each was subjected to precise quality control. "Take a look," he said, as he took a blueprint out of a drawer. "This is what the technological regulations are to look like, what and how to do the work so that it would have the desired strength and high quality. If we had had such bases at that time, things would not have happened this way."

There is no more time for us. The clock hand already passed 12:00 Noon, and in a short time, the morning shift will end and the afternoon shift will

come in. This does not matter to the vertical boring machine operator. "There is a shortage of people, so we work 12-hour shifts," he adds.

Josef Vala of the machine shop set-up crew also does not watch either the clock or the calendar. Everyone here says that he is one of the most devoted workers. Their brigade is doing the finishing work and it depends upon them whether or not the pulley wheels are sent most expeditiously to the North Bohemian Brown Coal Basin.

At the time of our visit, he was going to use his personal automobile in the coming days to transport the last shipment. The actual last pulley wheel was already prepared in the welding shop. But why is Miroslav Broz not welding yet? "Before I begin, it has to be heated up first to 200-250 degrees Centigrade," he said, and he pointed to the flame of burning gas, which he whips up with a charge.

The heating of the metal before welding was also prescribed in addition. Nothing of this sort was done on the old pulley wheels, which had been removed. The quality of preparation for welding and quality control were the Achilles heel. People in production affirmed that in the planning and in the later phases of production preparation, not everything had been worked out sufficiently.

The responsible technicians, it is true, are not happy to hear disparaging words, however, the expertising of specialists has confirmed that the initial pulley wheels were laid out, as people say, "off the top of their heads." Moreover, stronger wheels are needed, as is evidenced by the demanding conditions of the stripping of overburden.

An especially important role was played by the insufficient quality control of the welds. Subsequently, today the welding work was entrusted to the most experienced welders (Miroslav Broz, for example, came here from sister plant 6), who have the proper qualifications for this. The previous time, anyone with perhaps only basic welding knowledge was welding.

When welder Broz completes his work, this last wheel, like every other wheel, will undergo detailed quality control with ultrasonics, and if all is well, it will go further for 8 hours in an annealing furnace, and then it will undergo more quality control with ultrasonics. The previous time, attention to the quality of manufacture of the pulley wheels was not given, even with the most exacting products.

The atmosphere which was prevalent in Plant 5 during the past weeks cannot be characterized as anything other than the maximum concentration of forces so as to have the K 10,000 operating reliably as soon as possible. In the party organization and the plant management, it was stated openly to communists and non-party members: "It is our duty to recompense for what has happened as quickly as possible." In recent days, there was no time to determine who was the most or the least to blame for this. A precise study

and analysis of the causes will take place later. This is a bitter experience for some workers in the pre-production stages, firmly states Karel Novotny, plant Chief Engineer.

Next Year's Task is 17 Million Cubic Meters

Next year, the K 10,000 excavator must remove 17 million cubic meters of overburden at the Maxim Gorkiy Large-Scale Open-Cut Coal Mine. There is no other way that the basin could extract 1.5 million tons of coal. In this case, we are talking about high-quality grades, which are in short supply. All the mechanics and specialists working on the repair of the large machine know that all too well.

Success has been found already in the production of replacement pulley wheels, which were sent to the North Bohemian Brown Coal Basin. Now it depends upon every day and hour, so that all the installation work and adjustments conducted during the shutdown period will be completed on time with high quality work. Let us say goodbye to the old year, the "ten-thousander" has to move to the overburden face, in which work was interrupted after the breakdown.

The greater part of the work for this was done by the installers from Vitkovice and other organizations that participated in the replacement of the pulley wheels. In recent days, it was possible to complete ahead of schedule, not only the installation of the pulley wheels, but also other tasks which were supposed to have been conducted during the excavator shutdown period. This is an important premise for being able to accelerate the technical "revival" of the individual units of the large machine, which is supposed to go into full operation as of the New Year.

This is a veritable baptism of fire, in which the crews who will lead the K 10,000 into the demanding struggle for a million cubic meters of overburden will also have to display a high degree of skill.

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CSO: 2400

PERSPECTIVES FOR USES OF COAL TAR VIEWED

Prague HOSPODARSKE NOVINY in Czech 21 Dec 79 p 10

[Article by Docent Engr Miroslav Kaloc, CSc, Advanced School of Mining, Ostrava, and Engr Miroslav Janik, CSc, Research Institute for Coke Chemistry, Urx Plants national enterprise, Valasske Mezirici: "Prospects for Utilization of Coal Pitch"]

[Text] Closely related to the production of high quality carbonaceous materials is the development of electrometallurgy, electrochemical and electrothermic productions, nuclear and special technology and many other sectors. Tar and pitch obtained from coal coking prospectively represent a raw material which can eventually replace natural graphite crude oil coke, now in short supply, in the manufacture of carbonaceous materials.

The world production of steel manufactured through electrometallurgical process amounted to 80 million tons in 1973 and according to estimates will reach 135 million tons in 1980 and approximately 280 million tons by the year 2000. For comparison's sake: the CSSR will produce approximately 1.7 million tons of electric steel. With specific consumption of 6-7 kg of graphite electrodes per ton of electrometallurgically produced steel, the world consumption of these electrodes amounted to approximately 520,000 tons in 1973 and is estimated to reach approximately 800,000 tons in 1980 and approximately 1.6 million tons per year by 2000. The high intensity electric furnaces of the UHP [expansion unknown ?ultra high power?] type consume approximately 10 kg of electrode per ton of steel.

Aluminum production is another major consumer. Approximately 0.5-0.6 tons of anode carbon are needed for production of one ton of aluminum. Although the CSSR can satisfy part of its needs of anode substance from the domestic raw materials, a considerable quantity must be imported. Among other consumers are for example special technology, semiconductors, heat exchangers and last but not least electrical engineering.

The qualitative requirements of carbonaceous materials vary according to the purpose for which they are used. New sectors require a relatively higher

structural and chemical purity of carbonaceous materials and such procedures and raw materials must therefore be chosen which will produce these properties.

When we look at the prices of carbonaceous materials, we arrive necessarily at the conclusion that the domestic raw materials must be most efficiently used for their production. One ton of normal graphite electrodes for example cost \$1,330 on the world markets in 1974. We must therefore conclude that the so-called UHP electrodes for highly efficient furnaces were sold at much higher prices. Moreover, they were profoundly affected by the general trend in price increases because one ton of these electrodes cost Kcs 36,000-40,000 already in 1978. We must also take into account that all graphite electrodes that we need must be imported from the capitalist states.

The worldwide trend points to the use of pitch or tar for the production of carbonaceous materials which fully utilizes its polycondensed aromatic structure and chemical purity.

At the present time, the CSSR produces approximately 10 million tons of coke and the commensurate quantity of tar. This is more than enough to supply the domestic processing capacities with this valuable raw material. At the same time, however, due to the lack of processing capacities, its surplus is exported and then again must be bought back in refined form at a higher price paid in foreign exchange.

Some quantity of pitch is processed in our country into the so-called electrode pitch binder, while its larger proportion is processed into pitch coke. The presently used technology, however, of high temperature carbonization at 1,000 degrees Celsius is essentially cumbersome because it excludes prompt technological interventions and cannot meet the requirements of modern technologies which employ modified coke. Although a number of technological and sanitary problems arising from the conventional high temperature process have been successfully solved in the CSSR, the present technology cannot be regarded as practical in the long run.

Another serious factor is considerable energy consumption and interruptions of operations caused by frequent and extraordinary costly general repairs on the brickwork of carbonizing chambers. The quality of the final product also does not meet the needs of electrode industry.

For all these reasons, many foreign countries pay extraordinary attention to a much more modern production process described as delayed coking. This process produces a high quality coke substance suitable for processing into electrode carbon. Moreover, this process has several additional advantages: various compositions of the basic raw material can be used (including certain industrial "waste" whose disposal constitutes an urgent problem also in our country); technology can be adequately controlled; finally; sanitation of workshops can be substantially improved. Carbonization takes place at approximately 500 degrees Celsius and in comparison with the conventional chamber technology the interstage preparation of hard pitch is dispensed with. In

other words, in terms of technology, economics, sanitation and energy consumption this is a much more advantageous process than the conventional one. Technological equipment and particularly its design is simpler.

Delayed coking of intermediate pitch thus produces so-called green coke which is calcined and graphitized into anode or electrode coke. Moreover, there is room for the improvement of this technology which will make production even more efficient.

Apart from processing of pitch into billet, there are also other possibilities which are being increasingly explored in foreign countries. For example production of carbon fibers likewise represents a progressive way of utilization of suitable raw materials. By their properties and prices, these fibers can successfully compete with other borane- or silicon carbide-based fibrous materials.

Another very important and large area are considerably promising pitch-based active absorbents which are used for example for gas and water purification, for collecting sulfur dioxide and nitrogen dioxide from gas, molecular sieves for enrichment of air with oxygen. A process has also been developed for the preparation of active carbon for blood purification by dialysis.

The list of these processing procedures could certainly be enlarged to include also other processes which produce soot blacks, blocks, isolations, compositions, sealing materials and so on.

When we sum up everything, it becomes clear that from coke-chemical raw materials finished products can be made about whose purposeful use, because of their specific properties, there cannot be any doubt. We must decide in favor of utilizing coal pitch because, in our opinion, the Czechoslovak conditions warrant it. Among them we must mention:

- a significant reserve in the raw materials basis;
- situation on the world market (supply and demand, price relations) particularly in regard to electrode and anode substance;
- the increasing need of semifinished carbon products to meet the domestic demand for finished products or export requirements;
- quality and accessibility of other raw materials, particularly petrocoke with low sulfur content;
- realistic nature and the resulting effect of research and development.

We maintain that from the CSSR standpoint it would be desirable to process pitch or tar into carbonaceous materials either in the form of basic semifinished products. In this way, we shall not only be able to satisfy our domestic needs, but also export them because on the basis of both present and prospective knowledge they represent the most perfect way of pitch utilization. Their exchange and useful value would be much higher and such exports would likewise represent a substantially higher economic and technological asset.

Naturally, the implementation of the entire project presupposes the clarification by basic research of certain yet unresolved problems, if we are to make the best possible use of coal tar and pitch. Since the worldwide development of artificial carbon production is likely to follow this course also in the future, we must begin immediately, if we do not want to lag behind. Moreover, this tendency completely coincides with the effort to make the maximum and rational use of raw materials.

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CSO: 2400

HUNGARY

FEKETE EXPLAINS BANK ROLE IN CREDIT FOR INNOVATIONS

Budapest ELET ES IRODALOM in Hungarian 15 Dec 79 p 7

[Interview with Janos Fekete by Andras Mezei: "We Asked Janos Fekete: How Rich Are We?"; date and place not given]

[Text] [Question] Dear Janos Fekete, we once asked you, as one of the directors of the National Bank, to take part in the debate "Are We So Rich?'. Why didn't you?

[Answer] Because I do not regard myself to be an expert in this matter.

[Question] Isn't there a certain irony in your response?

[Answer] If there were, I wouldn't deny it. But seriously, when it appeared that not only experts on the questions at issue would take part in the debate, when it became evident that all of the speakers, whether with a cooler or more passionate, an objective or a literary, voice, were wrestling in their hearts with the question of how our country, our economy, could hold its own in a world market competition that is creating ever more difficult circumstances, I felt that I--as a layman in this matter, but one interested in public affairs--would also be able to express my opinion.

[Question] Why didn't you?

[Answer] Partly because you had already concluded the debate, partly because a second "in-house" debate had already begun among us at that time concerning the question of how it would be possible to "join in the discussion" of the things themselves with those means by which we too could have "said" something in this debate, for the great interest had also convinced us that the theme was timely, that the present--that is, then-existing--situation did not completely correspond with the interests of the national economy, that it is really true that we are having some trouble with the utilization of intellectual products, with readiness for innovation, with the possibilities for increasing our competitiveness. But let me not refrain from stating that well before the debate our government organs had already recognized the importance of the tasks. One speaker even referred to this:

Decree No 1003/1978 (I. 18) of the Council of Ministers specifies the current tasks of science policy, and on the basis of this decree the Science Policy Council of the Council of Ministers worked out a detailed program of steps to be taken in research and development. We should examine the question of whether we have perhaps been insufficiently concerned with scientific research work. According to a publication of the Central Statistical Office concerning scientific research, in 1977 there were 36,803 scientific researchers in various research places. Perhaps material resources are lacking? We spent 17.8 billion forints on research and development in 1977, that is, 3.77 percent of the 1977 national income, proportionally the same as the United States and the FRG spent for this purpose.

[Question] Is this wonderful?

[Answer] It would be, but if we look at what good all this is to the national economy (if, let us say, we take the simplest quantitative base of comparison, the registration figures for new inventions), then certainly we are far behind in international comparison, in last place, for example, among European member states of CEMA. But the debate also convinced us that if we were to make some other, qualitative comparison, the situation would be no better then. And if you now ask again why this is, I cannot say any more today than when the Economic and Legal Book Publishers asked me to write the forward for a book compiled from the material from the debate "Are We So Rich?": the trouble perhaps stems from the fact that we do not call the researcher to account for assisting our economic development by some new invention, but for how much he has published and for whether he has acquired the next higher scientific degree. Many of our scholars, of our scientific researchers--in many cases through no fault of their own, but yielding to "social expectations"--concentrate their strength on this. If we follow attentively how difficult it is for each invention to push its way through to completion, how many obstacles its operationalization runs into, we should not be surprised that some people prefer to strive to acquire laurels "on paper."

[Question] In your view, then, where is the trouble?

[Answer] Let me quote one of the speakers: "Our economic development has entered a period in which the science of economics must become a productive force if we want to assure innovation and the further increase of efficiency by new means." Does the science of economic in our country today meet this requirement? I myself think that it does so only in part.

[Question] In which part?

[Answer] In that part in which I estimate the reform of the system of economic management as a success of Hungarian economics, and the decade that has passed since then as an eminently successful period in Hungarian economic history.

[Question] And the rest?

[Answer] As for the rest, the process started by the reform has been faltering in recent years. This is reflected in the slowing down of our development and in the configuration of our standard of living, our foreign trade balance, and our budget. It is faltering--I say--but the basic cause of this is, in my view, that our production relations do not always correspond to the present-day level of development of our production forces. And if it remains like this, if we do not progress in the further development of our system of economic management, the dynamically developing forces of production will come into conflict with production relations that recoil from new things and want to preserve the old. I see the substance of the problem posed by the debate even today in the fact that we have reduced our production relations to property relations. We have directed greater attention than necessary or justified to the further development of "consistently socialist" relations at a time when 98.6 percent of our national income already derives from the socialist sector. At the same time we have not directed enough concern, from the viewpoint of the further development of production relations, to the very significant goods and financial relations, to interest relations, and to the creation of harmony between individual, group, and societal interests.

[Question] What is the Hungarian National Bank doing with its own resources? Has it been able to come up with anything? What is the concern of the socialist banker?

[Answer] "What we desperately need today," one of the participants in the debate wrote in your paper, "is the further development of the reform initiated 10 years ago." I agree with that completely even today. But I do not want to say that any economic reform whatsoever can eliminate the risk accompanying the introduction of anything new. A Western financier with a philosophical bent said: "If a banker's only concern is how to avoid risk, he will quickly get into a situation in which he will no longer have any possibility of taking a risk." I think that this is true for every undertaking. For precisely this reason, a clear, circumspect price and exchange-rate system and income and value relations must be created, against which the risk and the anticipated result may be weighed and compared, and in this way innovation and new technology will not mean the taking of unnecessary risks or an excessive burden, but will denote the sole, safe route to healthy further development, to remaining in competition.

[Question] We know that new measures have been taken with which they are nevertheless indirectly joining in the debate "Are We This Rich?".

[Answer] Yes. Together with the National Technical Development Committee, the Finance Ministry, and the National Patent Office the bank also took part in formulating those recommendations on the basis of which the Science Policy Council adopted a resolution concerning measures to promote innovative activity.

One of these pertains to the credit-granting activity of the bank. In future the bank may extend credit--under the present circumstances, on relatively favorable terms--for innovative activity. Enterprises that request credit for such purposes and undertake repayment within a suitable deadline must turn to the bank.

[Question] Credit serves the purpose of preventing the failure to carry over good ideas and inventions into practice, that is, into production, because although the invention exists and there is an enterprise that is also prepared to undertake the greater risk accompanying anything new, it does not possess the financial wherewithal necessary for this. The question is, therefore, will enterprises and cooperatives dare to take the risk?

[Answer] What kind of risk does the bank undertake in the interest of making inventions operational?

With the approval of the Ministry of Finance the bank will set up an innovation fund from part of its profit and from certain central sources. In this manner, an organization of the Hungarian National Bank operating as an autonomous legal entity may also incur the risk in the operationalization of each invention that promises to benefit the national economy. I would like to emphasize, however, that by this the bank does not and indeed cannot take over the full-scale initiative and coordination in this area. This would be an impossible task

[Question] How will they use the fund?

[Answer] I hope that they will choose wisely and well which should be the invention whose implementation they will partially undertake from the bursting up of the "divine spark" to the beginning of manufacture--materially, as well. This apparently insignificant "as well," however, means that when once it has "embarked" on an undertaking, then it should "go after its money, too," because it is not a matter of indifference whether the amount invested is lost, something--I would like to emphasize--that in many cases is unavoidable, given the character of the activity, or, on the other hand, is repaid with significant profit. Therefore, it is in the interest of the organization administering the innovation fund to keep its eye on all those undertakings in which it is taking part. In order not to let matters get bogged down, come to a standstill.

[Question] Through the innovation fund, therefore, the bank would represent the interests of socialist profit?

[Answer] It would be good if the innovation fund were to return as much profit as possible to the national economy, but the bank does not want to "enrich itself" by this. It would like it if from successful undertakings there would be enough profit for the innovation fund to become self-financing after only a few years.

[Question] How large will this new institution be? Where will the headquarters be? What departments will it have? On what basis will the technical, legal, trade, and financial experts be divided within it? How many will there be?

[Answer] Six.

[Question] In management?

[Answer] Altogether.

[Question] Is this a joke?

[Answer] No, an invention. But joking aside: behind the six people will stand the whole apparatus of the bank, which will extend every assistance for the best possible accomplishment of this difficult task. Besides this, we are certain that in every managing and directing unit of the national economy there are and will be partners who will, not only on a business or official basis, but gladly and enthusiastically, contribute to our really making the best use of our intellectual capital. If we did not believe this we would not take the risk.

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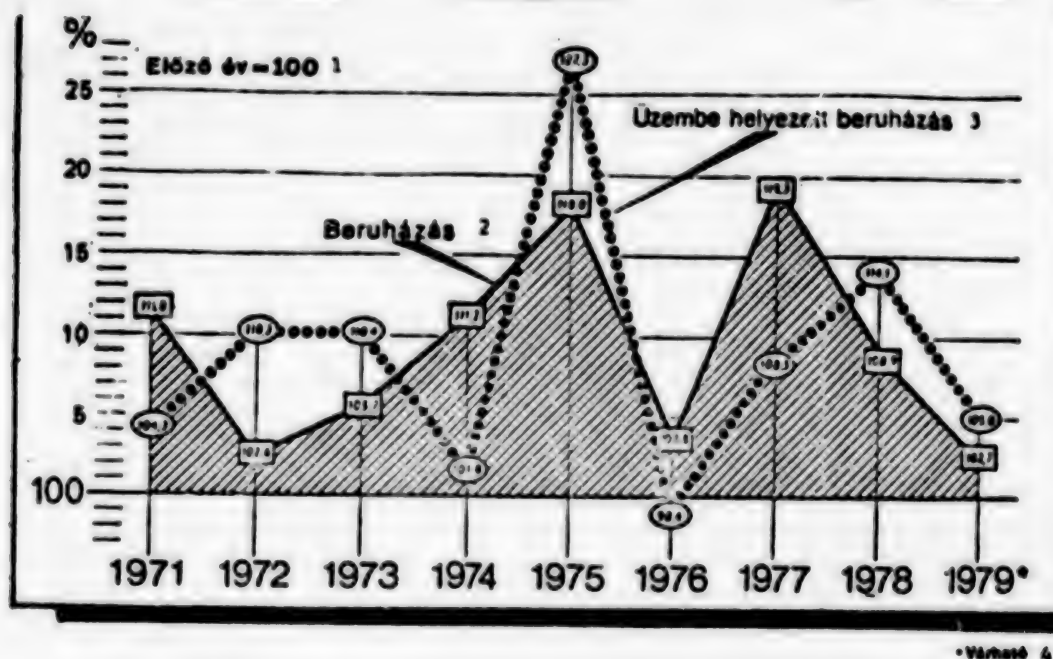
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HUNGARY

FULFILLMENT, SITUATION OF INVESTMENTS EXAMINED

Budapest FIGYELO in Hungarian No 1, 2 Jan 80 pp 1, 2

[Text] Table 1 State of Affairs in Investments



- Key: 1 Previous year = 100
 2 Investment
 3 Operating Investments operating
 4 Projected

The 1979 national economic plan's target for investments in the socialist sector was 204-206 billion forints. Actual implementation is expected to total about 202-203 billion forints, thus we succeeded, after two years of significant overspending to moderate investments.

Is the character of the investment process changed, or is everything all right in the "investment front"? No, we cannot say that, investments for a long time to come will probably remain a "fighting question." The fight for development sources may even become more intensive, for the stagnation and decrease of the available investment funds may intensify the clash of interests. In spite of this, we witnessed a few strange phenomena in 1979.

According to Target

The objectives of state investments, for instance, were realized, at least globally: their volume increased by 5-6 percent. Within that, the volume of large investments was less than planned, that of the lump-sum investments was more than planned, and that of the so-called other state investments was the same as planned.

Approximately 28 billion forints were paid for the 38 large investments under construction. These include such large projects as, for example, the Paks Nuclear Plant which itself required 5.5 billion forints. A significant portion of the backlog originating from the earlier years were eliminated in 1979 by putting more than 9,000 people to work on the investments, which is unprecedented in Hungary. About 2.5 billion forints were appropriated for the combined steel plant of the Lenin Metallurgical Works and for the construction of the Metro's north-south line.

There were also a significant number of projects that were opened up. The construction of the Deak Bauxite Mine was finished a year earlier than planned, which can produce at present 885,000 tons of bauxite annually. Line 1 of the Belapatfalva Concrete Factory is already producing, and production also began at the Crude Oil Refinery on the Tisza and the new Phylaxia food plant.

The 1979 national economic plan prescribed the 100 percent completion of 11 large investments, in addition to those that were carried over from the previous year. Of these, only two will have to be completed in 1980, namely, the Sugar Factory of Hajdusag and the development of the Hungarian Roller Bearing Plant, but both plants began production in 1979, only the auxiliary works were delayed. The first phase of the Tisza Thermal Plant, the development of computer technology at the Hungarian Optical Factory, the new food plant of the Phylaxia, the new Borsod Chemical Combine PVC plant, the propylene plant of the Tisza Chemical Combine, the Simontornya Leather Factory, the Gyula Meat Combine, the Technical School of Traffic and Telecommunication of Gyor, and the development of the theory department's block at the Semmelweis Medical University were all completed.

The so-called lump-sum investments comprise, first of all, the developments of the infrastructure. For these, approximately 45-46 billion forints were spent, about 2.5 billion more than planned. The investment increase in the acquisition of railroad vehicles is especially significant because of an allowance for the acquisition of an additional 950 freight cars. The purpose for this was to alleviate the problems in transportation. There were further constructions of our freeways also, namely, the M-1, the M-3 and the M-5.

Enterprise investments, for the first time since 1972, decreased also in current prices. Neither the enterprises' own sources, nor the disbursement of credit, nor state subsidies were higher than planned.

Enterprise demand for investment credit and state subsidy was slack. The number of applications and the amounts requested have decreased, which has mainly two reasons. First, the tighter conditions for credit and subsidy of the announced investment hold-back decreased the spirit enterprising and, second, the changes in the 1980 directives also made the companies more refraining. It is undoubtedly a favorable phenomenon that the main indicators of credit allowance (expiration, rentability) have improved as compared with the previous year and that the proportion of direct state subsidies have overwhelmingly increased within the applications for state subsidy.

There are 11 current enterprise investments in the making whose target expenses exceed 1 billion forints each. Enterprise attitude toward development is well characterized by the fact that these investments, with no exception, began between 1974 and 1977 and thus such large-scale enterprise investments have not been initiated in the last two years, that is, in 1978 and 1979.

Why Does It Not Speed Up

The composition of investments according to the power of decision has changed as a result of the processes shown: the proportion of investments in the socialist sector's investments have decreased from 57 percent in 1978 to about 54.5 percent in 1979. Since the material and technological composition of state and enterprise investments is significantly different (in the former, the proportion of construction, and in the latter, that of machine investments is higher) and thus it is not surprising that the proportion of machine investments has decreased and that of construction has increased in the socialist sector's investments.

Investments in import machines in non-ruble accounts have been curtailed to an especially large degree, amounting to more than 10 percent. (Although it must be noted here that the last two year's combined increase exceeded 50 percent.)

It seems logical that the stagnating investment process makes the speed-up of realization and implementation and the decrease of the terms of production possible. But not all truths of logic and principle become truths of practice! The implementation market approached a state of balance: the sum of

value of the rejected investment constructions has decreased by one-third, and there was a certain amount of over-supply in a few areas. Builders--of course, partly because of the low number of investments that have just begun--strived to finish projects already started. Still, only 3 of the 46 investments that were subsidized by the state and that were begun in the first 9 months of 1979 were completed by the deadlines. The completion of all the rest was more or less late. Twenty-one of the projects involved overspending. The socialist sector's investments that began operating did not increase in 1979 as desired. The explanation for this must be found in the character of the investment process. The slow-down of new investments was the primary means of moderating investments. For a long time this did not influence the industry of specialized assembly responsible for the completions. Demand in that area may yet, for a time, be higher than the capacity for construction and assembly. For this reason, it is not realistic to expect a speed-up of completions.

What is to be expected in 1980? The national economic plan reckons with a further decrease of about 4-5 percent of the volume of investments, which will mean a larger decrease in current prices because of an expected moderation of investment commodity prices, amounting to approximately 10 percent. According to calculations of this state and company investments would decrease by about the same degree.

The main reason for decreasing the present investment level is to create a balance. (This is the way to achieve a decrease in the domestic utilization of national income in 1980 as well.) However, the present investment process, in itself, also makes the planned moderation possible.

The Danger of Excessive Regression

The slow-down of enterprise investments was, already in 1979, more than planned. This is also to be expected in 1980. Although the changes in prices and directives make the estimation of the enterprises own resources very shaky, made even shakier by unfamiliar changes (decreases) of investment prices, and thus a careful regulation of the financial means that supplement own resources (credit, state subsidy, basic allowances) being essentially justified, it seems very probable at present that the companies will not take a full advantage of the 1980 investment credit margin. In previous years, the tie-down of the individual credit targets (contingencies) were too high at the beginning of the year, more than once approximating 100 percent. At present, however, the tie-down of some credit targets is so low (including, for example, the allocation that increases the convertible export commodity funds) that we could expect its utilization only in case of a lively demand for enterprise credit. But this is not to be expected in the first half of 1980, precisely in the period that creates undecidedness because of the changes in the regulations.

In my opinion, we must thus not only strive for a moderation and strict limitation of financial sources in the area of enterprise investments but we can at the same time encourage projects which are the most profitable

Table 2

Key: 1. The Socialist Sector's Investments in 1978 (Billion forints)
2. self-explanatory



and which yield the fastest returns, keeping, of course, our strict requirements for rentability. Otherwise a much greater slow-down of investments may follow in the second half of 1980 and in 1981 than projected.

The case of state investments is quite different. The moderation of investments postponed the beginning of numerous projects that were essentially approved earlier. There is an increasing line-up which is most characterized by the fact that preparations were made in 1979 for 41 large state investments and the State Planning Commission has approved the developmental target or investment proposal of 17 of these. These investors are waiting "on the jump" for the "bang of the starting pistol". Since in state investments we can count on monetary processes (the whole of the developmental possibility at disposal, that is, the profitability of utilization) even less than on weak company sensitivity toward expenditures to effectively check developmental demands, the danger of a new and unexpected running-in is not to be ruled out. For this reason the present restrictions must be maintained or made even stricter from case to case. (This is reflected, by the way, in that the 1980 national economic plan specifies: no large state investment may be started, although earlier conceptions included new large investments.)

Not To Be Bound To The Calendar Year

A significant step forward should be taken in regulating investments. It is a well-known fact that there is a significant fluctuation of investments in Hungary (and in the majority of the socialist countries). After 2-3 years of rapid growth were followed 1-2 years of stagnation and regression. The detrimental effects of this are evident.

There is, however, another fluctuation, namely, a mid-year movement that can even be considered seasonal.

The numbers of the year 1978, shown as examples, prove without any doubt that the combined investment implementation of the year's first 5 months is iden-

tical with that of December, and this is essentially the same in any year. Although we might suppose that such a fluctuation is present only in the accounts and the variation in the actual implementation in the individual months is significantly smaller, we may say with assurance that the fluctuation of work performance is also great (this is best known with reference to apartment construction).

Such differences in performance within a year has a double detrimental effect. First, quality becomes a secondary matter at the time of peak working pace and this often demands many times more corrective repairs than a slower, and efficient, working pace would. Second, the capacities are going unused during the slow periods but, because of preparations for peak capacity which are known by every one before hand, these "capacity reserves" are impossible to mobilize during the other periods of the year.

One solution could be to strengthen investment process regulations investments. If we would not strive primarily to a single year's investment but to regulate the sum of value of the existing investments in progress in harmony with implementing capacity, then the finishing time could be shortened. The longer-range cyclical fluctuation of the investments, and the mid-year seasonal fluctuations would be restrained as well. One main reason for the year's-end's last-minute rush is precisely the similar peak of work of the previous year when, to improve the yearly performance, the basis necessary for a steady working pace in the next period is used up.

9414

CSO: 2500

SOURCES, UTILIZATION OF 1980 OIL SUPPLY NOTED

Budapest NEPSZABADSAG in Hungarian 31 Dec 79 p 4

[Article by Judit Kozma: "10 Million Tons of Crude Oil"]

[Text] There is hardly any area of our lives which is not effected by oil products in some form of oil products. From home heating oil to plastic trays, from gasoline to road construction materials, there are so many products made from the more than 10 million tons of crude oil that are processed every year in Hungary, that a simple listing of them would fill the columns below. Thus we cannot do that; however, we will follow, however briefly, the main phases of oil refining and the destiny of the most used heating and other fuels and of the chemical industry's basic materials.

Up-to-date Refinery

Let us start at the beginning: at the sources. About one-fifth of this valuable energy materials originates from Hungarian oil-fields--in 1980 expectedly 2.1 million tons--and 8.5 million tons "trickle down" from the Soviet Union through the Friendship pipeline. Thus a total of 10.6 million tons reach our four refineries, of which 7.4 million are processed in Szazhalombatta, 1.8 million in Lenin City, 1.2 million in Szony, and 200,000 tons in the refinery of Zala.

As a comparison, it is worth noting that while 35 years ago, in 1944, one million tons went to eight refineries, ten times that amount is processed today by only 4 large industrial plants. This shows the significant development of this branch, not only with reference to the quality but also with reference to technology. This development has been apparent especially in the last two decades. The 1 million-ton oil refinery at Szony was built in 1961 in harmony with the beginning of Soviet oil imports and the construction of this Friendship pipeline. Four years later another 1 million-ton atmospheric distiller plant was built in Szazhalombatta. In the two following phases of the development of the Danubian Petroleum Industry Enterprise, 2 and 3 million-ton refineries were built.

The oil industry's newest large investment is the Tisza Petroleum Industry Enterprise (TIFO) in Lenin City which has a refining capacity of 3 million tons annually. Testing began three months ago in the combined technological plant of the refinery, and completion of the project is expected by mid-1980.

An up-to-date refining base and a characteristic situation arose with the beginning of the TIFO's operations. Namely, the new plant's capacity is higher than the domestic demand. Partly because the refining industry can be developed economically only through large steps while demand grows more or less steadily. And partly because, as a result of the sudden price-hike of energy sources, the pace of growth in oil refining has slowed down. At present, for instance, we process 1 million tons less than originally specified in the Fifth Five-Year Plan. This situation also, however, has some advantages: the available capacities may be economically filled by refining-leases. This year, for example, 300,000 tons of oil were refined in the refinery at Szony for a company abroad, and there are further such undertakings planned for next year.

Motorization and the Chemical Industry

The 10.6 million tons of crude oil thus go to four refineries where—the specialists will perhaps forgive me for this amateurish simplification—the oil's hydrocarbons will be separated according to their cracking points.

The first product achieved by distilling is propane-butane gas. The refineries will produce about 77,000 tons in 1980.

A larger proportion, approximately 17 percent, will be raw gasoline, from which—one of the indispensable accessories of the motorization gasoline and chemical benzine, an important basic material of the chemical industry, will be made. According to the plans, the nation will use 2,470,000 tons of gasoline in 1980; a part of this will originate from our own refineries and a part from the Soviet Union through the East Oil Pipeline. (Whereas we import 1.5 million tons of gasoline and diesel fuel from the Soviet Union, next year we will import 2 million tons.)

A smaller part of this 940,000 tons will go to the chemical industry. Ethylene, propylene and other olefin products are made in the Tisza Chemical Combine from the amount coming from the Tisza Petroleum Industry Enterprise. Our modern petro-chemical industry is built on these basic products. Polyethylene and PVC will be made from ethylene, and another important plastic, polypropylene will be made from propylene. The olefins made in the olefin plant of the Tisza Chemical Combine are the basic materials for making synthetic rubber. (It is worthy to note that the petro-chemical industry, or the significant production of raw materials for plastics, uses only 7 percent of the products made through oil refining.)

In addition, the relations between oil refining and the petro-chemical industry are bilateral: through the transformation of chemical benzine the so-called pyro-benzine will be made which, when mixed with gasoline used for engines significantly reduces its lead content.

The purpose of the new plant at the Danubian Petroleum Industry Enterprise completed this year is similar: to make gasoline isomeric. The two important products of the plant, isopentane and isohexane, effectively increase the octane number and, since they are in demand on the world market, they can also be profitably exported.

Thanks to the up-to-dateness of the so-called reforming plants that make motor gasoline from raw gasoline and to the additives already mentioned, the quality of our domestic gasoline is also internationally competitive. This quality will also be maintained in the future, because the economical use of the 1.4 million tons of gasoline with 86, 92 and 98 octanes also depends on the quality of the fuel.

The so-called aromatic hydrocarbons, made from raw gasoline, are also significant although their quantity is not large, amounting to only 253,000 tons. Benzol, toluene and xylene, made in the aromatic extracting plant of the Danubian Petroleum Industry Enterprise, are very good export products bringing to the nation significant amounts of dollars and, at the same time, they also serve as basic materials for many chemical products such as synthetic fibre, adhesives, PVC-softeners and herbicides.

Consequently, even if only roughly--the technology of oil refining, the next product of the distilling towers is diesel fuel or heating oil. The nation uses 3.9 million tons of these, including the imports from the Soviet Union. About 20 percent of it is residential heating oil, 6-7 percent is used by the Hungarian State Railways for its diesel locomotives, and 35 percent is used by cars, trucks and farming machines. The remaining is used by industry and farming, for burning purposes.

The increase of demand and the tightening of quality requirements made it necessary to substantially decrease the sulphur content of diesel fuel. For this reason, modern sulphur-clearing plants--and plants for processing the gases that contain hydrogen sulphide and extract sulphur--were built which will produce approximately 16,000 tons of sulphur next year.

With the separation of propane-butane gas, gasoline and diesel fuel, the first stage of oil refining is completed; the remaining mazout, however, still contains valuable hydrocarbons. From this, bitumen is made, for example which is used mainly for road construction and will amount to about 690,000 tons next year.

The various lubricating and engine oils are made from the mazout. Lubricating oils are made by the newly built complete lubricating oil block of the Danubian Petroleum Industry Enterprise. From the basic oils made here, lubricating and engine oils are made in cooperation with the Komaron Petroleum Industry Enterprise and the research laboratories, which also meet international requirements. Such are the AFOR MS-E, the Multisuper MS-E, the AGIP F-1 and several other kinds of oil. In 1980 we will use a total of 177,000 tons of lubricating oil, and of this 65,000 tons will be of engine oil.

There are thus many products that can be made from oil; under the present circumstances, 63 percent of the total amount may be used for the purposes above. The remaining 37 percent--this is about 3.7 million tons of heating oil--can be used in only one way: to be burnt in power plants and in industrial burning equipment.

To Improve Refining

There is thus a close cooperation between the oil industry and the electric power industry. The primary goal in the operation of power plants is, of course, to convert mainly coal, then natural gas and, only thirdly, heating oil to electricity. However, in spite of this, 1.8 million tons will be still needed for the power plants next year too, and 2 million additional tons will be used by the industry.

The best way to estimate on the national level the rentability of crude-oil refining is to see how many "white product," that is, how much more valuable elements can be produced from crude oil. The Hungarian oil industry is also striving to increase the ratio of these. Let us mention only one of the long-range plans, that of the construction of a so-called catalytic cracking plant. Such a plant, can produce gasoline and diesel fuel from heating oil.

With its aid, the ratio of "left-overs" can be reduced from the present 37 percent to 27 percent, which will improve the efficiency of oil refining and thus the balance of payments of the national economy.

9414

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HUNGARY

SPECIAL CREDITS URGED TO UP FERTILIZER USE

Budapest MAGYAR MEZOGAZDASAG in Hungarian No 49, 1979 p 15

[Article by Imre Kadar of the MTA's (Hungarian Academy of Sciences) Soil Science and Agrochemical Research Institute, and by Elemer Gyurasits of the MEM's (Ministry of Agriculture and Food Industry) Center for Plant Protection and Agrochemistry: "More About Chemical Fertilizer"]

[Text] Only One-Third of the Soils Are Well Supplied

Experience has shown that some operations cancel or do not accept the chemical fertilizers they had ordered. Besides causing problems for the sales organizations, this also affects the product yield results of the following years. The fact that there was also a shortage of certain chemical fertilizer types (for example potassium) increases the problems.

The 1979 chemical fertilizer orders placed by the agricultural operations and the cancellations of these orders have developed as shown in Table 1. The quantities canceled by 1 May were not significant, in all not exceeding 5 percent of the orders placed for the year. But by the end of July this ratio approached 7 percent, and in the case of N [nitrogen] 8 percent. Particularly large deviations are seen from one megye to another.

For example, the ratio of canceled N-chemical fertilizer orders in tons was 100 (0.2 percent) in Tolna [megye], 907 in Csongrad (1.8 percent), 1,779 in Nograd (5.9 percent), 3,194 in Komarom (11.0 percent), 11,393 in Szolnok (14.6 percent), 17,700 in Hajdu-Bihar (17.0 percent), and 9,663 in Heves (37.4 percent).

The question is justly asked, how will all this affect the progress of raising plants, crop yields and thus the performance capability of the entire agriculture? Can our crops be further significantly improved at the present level of chemical fertilizer utilization? Are we using too much chemical fertilizer, or too little?

Based on Soil Examinations

Today the nutritive material condition of our areas cannot yet be considered satisfactory. The large number of soil examinations performed thus far indicate about one-third of our soils can be considered poorly supplied, another third to be medium-well supplied and about a third well supplied with the main macronutritive elements. A certain amount of overfertilization seems to be justifiable in the poorly and medium-well supplied areas, fertilization to exceed the quantities of P and K depleted by the crops, by about 40 to 50 kilograms of active P_2O_5 and K_2O ingredients per hectare.

Table 1

Active ingredient	1979 orders tons	Orders canceled			
		by 31 May 1979		by 31 July 1979	
		tons	percent	tons	percent
N	591,371	30,973	5.2	45,149	7.8
P_2O_5	471,030	21,582	4.6	29,931	6.4
K_2O	554,748	22,172	4.0	36,045	6.9
Total	1,543,422	74,727	4.6	111,125	6.9

To enable us to judge the extent and effects of this year's cancellations of chemical fertilizer orders, we are showing in Table 2 our nutritive material balance set up for 1975. For the purpose of comparison we have given the items in the balance in 1,000 tons, and with certain fluctuations we can consider these to be valid also for the years of 1975 through 1980.

Table 2. Our agriculture's nitrogen, phosphorous and potassium balances in 1975. (Areas used in agriculture, in 1,000 tons.)

Items of the balance	N	P_2O_5	K_2O	Total
Depleted by the crop	539.5	198.4	517.9	1,255.8
Replenished				
by natural fertilizer	58.3	58.3	139.9	256.5
by byproducts	57.4	28.7	172.1	258.2
by chemical fertilizers	535.8	429.3	553.1	1,518.3
Total	651.5	516.3	865.1	2,033.0
Balance:	+112.0	+317.9	+347.2	+777.2
Intensity of the balance (percentage)	121	260	167	167
The share of chemical fertilizer in replenishment (percentage)	82	83	64	75

But the data of Table 2 also indicate that in our agriculture the traffic of mineral nutrient materials is quite open today, the share of chemical fertilizers is about 75 percent, and even exceeds 80 percent in the N and P elements. Thus the security of our food production depends basically on the quantity of chemical fertilizer used.

Production Losses In the First Year

The possible deterioration of price ratios can also cause a decrease in the use of chemical fertilizers in the absolute sense, because economic optimization demands a lower level of chemical fertilizer use. This latter also determines production levels, and thus the net profit of farms may decrease. Thus the problem affects industry as well as agriculture. The circumstance that our country imports K chemical fertilizers and the raw materials for P chemical fertilizers, brings up the question of import cutbacks and of cutbacks in the domestic production of N chemical fertilizers. What would a radical decrease--amounting to 20 to 50 percent--mean to the integrated agriculture which produces modern products, based on the distribution of work between the processing industry and of the growing of plants? Such a possible cutback would affect the farms much more strongly today than in the earlier, more closed production structure, in which the operations themselves processed their own products and therefore less nutrients were removed from the operation. Our agriculture has problems in this respect particularly because of the large number of operations without animals, the restricted crop rotation, and the monocultural character and the extra weight carried by merchandise production and plant growing which characterizes our entire agriculture, which is coupled with low animal density and natural fertilizer production, and with neglected meadow and pasture management. That is, these factors taken together, increase our agriculture's chemical fertilizer demand. Based on the domestic experiments with free land and on international experience, we can arrive at the opinion that we must expect production decreases from the first year if the above-mentioned domestic production of N is cut back, from the second year P imports are cut back and from the third or fourth year after K imports are cut back. And within a few years the extents of these may reach as much as 20 to 30 percent.

Possibility: Reasonable Frugality

However, frugality with chemical fertilizers can also be reasonable. We have mentioned that about one-third of our soils can already be considered well supplied with the main macroelements. Recently, more and more experimental data and operational experience indicate that under these circumstances the efforts to strongly overfertilize may significantly endanger the soil's productivity, and may lead to a decrease in the plants' ability to resist disease, to production decreases, to disturbing the nutrient balance in the soil solution, and to rapid acidification of some soils. Some operations and producing systems cancel their chemical fertilizer orders, giving the reason that according to the guide principles and soil examination limit values given in the booklet received from MEM's Plant Protection and

Agrochemical Center, the level of chemical fertilizer use was unjustifiably high (MEM's NAK [expansion unknown] Chemical Fertilizing Guide Principles and Operational Calculation Method, 1979). However, the study of specific cases has shown that there are few operations where according to the guide principles the use of chemical fertilizers should be significantly decreased. Operations canceling their chemical fertilizer orders are primarily those which had low levels of chemical fertilizer use even in the past, and which have gotten into unfavorable financial situations due to the lower yield averages resulting from this.

The institutional system of providing uniform professional advice has been developed in this country also. Estimating the scientifically measured chemical fertilizer demand based on soil and plant evaluations is making it possible to determine the most economical dosages which also protect the environment. Without a doubt, the value of inately precedent-following fertilization is small. At the same time, professionally executed chemical fertilization is also the most efficient environmental protection. Everything must also be done to permanently solve loss-free storage, warehousing and distribution, because careless open-air storage has also often caused losses as high as 15 to 20 percent. Our largest reserves are in the area of professional application of chemical fertilizers. Today and in the near future this will be the most important factor exerting an effect in the direction of decreasing chemical fertilizer demand, at the same time protecting the environment, promoting large and increasing yield averages and by this also the proper application of more and more expensive chemical fertilizers and profitable returns on them.

As far as production policy is concerned, it should be considered that in those operations where most soils are poorly or medium-well supplied and are low in productivity, and where the operation cannot afford to use the necessary chemical fertilizers out of its own resources, we should put an end to irrational "frugality" perhaps through the use of special purpose credit, or by other state intervention.

5384

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HUNGARY

REGULATIONS ON AGRICULTURE SUBSIDIES DETAILED

Budapest MAGYAR MEZOGAZDASAG in Hungarian No 49, 1979 pp 23-26

[Article by Lajos Kornyei, of the MEM's Main Department for Plan Management: "New Regulatory System in Agriculture"]

[Text] State Subsidy To Agricultural Investments

The system of state subsidies to agricultural investments basically will not change even after 1 January 1980. But through the measures of the new regulatory system certain regulations will undergo minor modifications.

Without changes, the construction, plantation-establishment and machinery-purchase assistances which serve production policy goals on the major operation scale, will receive state subsidies.

The system of state subsidies to agricultural investments which will take effect as of 1 January 1980 is contained in joint order No 42/1979. (XI. 1.) PM-MEM [1 November 1979; Ministry of Finance - Ministry of Agriculture and Food Industry].

To What Type of Organizations Can It Be Given?

All state subsidies to investments defined in order No 42/1979. (XI. 1.) PM-MEM can be used by the state farms; by state enterprises classified under the agricultural branch; by agricultural producer cooperatives; by fishing producer cooperatives; by specialized agricultural cooperatives; by joint enterprises and participatory associations listed under the agricultural branch; by those joint enterprises and participatory associations listed under the food industry branch in which the property participation of agricultural cooperatives or the property participation of agricultural cooperatives and state enterprises listed under the agricultural branch exceed 50 percent; by agricultural industrial associations; by agricultural speciality groups for investments necessary for jointly conducted agricultural activities.

Meat industry enterprises may receive state subsidies for constructing buildings to house hogs, wine-producing enterprises to plant and to modernize

vineyards, to purchase agricultural machinery and to perform work needed to improve the vineyards.

State subsidies to investments of small producers (household plots and auxiliary operations) will be published in one of our future issues.

Organizations authorized to lend out small agricultural machinery may purchase the small agricultural machines bought for the purpose of lending them out at prices decreased by state subsidies.

State forestry operations may make use of state subsidies for construction investment defined in the regulation.

I. Subsidy To Construction Investments

In subsidizing construction investments, changes have been made in the sphere of subsidized purposes, in the extent of subsidies and in certain procedural regulations. The modifications made in the sphere of subsidized purposes and in the extent of the subsidies are related to the reorganization of producer prices of agricultural produce and products.

Except for some investment purposes, the statute determines the extent of subsidy to construction investments in terms of a percentage of construction costs.

In general, a 20-percent subsidy may be given to build storage buildings, water supply structures, industrial roads and machinery maintenance shops.

A 20-percent state subsidy can be given to establish plants handling dilute manure attached to animal-raising lots only if the plant handling dilute manure solves the handling and storage of the dilute manure of hog-raising lots built prior to 31 December 1979.

Construction of machinery maintenance shops is also a new subsidized investment target for which a 20-percent state subsidy may be used.

It is a new characteristic of the subsidy statute that it insures state subsidies to agricultural operations not only for investments for meat- and milk-processing plants but also for other food-processing investments, to the extent of 20 percent.

However, subsidy for these investments can be obtained only through competition. The MEN's Food Industry Main Department provides information about the sphere of food-processing investments which can be given subsidy, and about the competition's conditions, in the release published in the MEN ERTESITO [MEN NEWS].

A state subsidy of 40 percent can continue to be given for cattle-, hog- and sheep-raising installations, investment for fish ponds, heated and unheated foil plots, and irrigation operations.

The subsidy order makes it possible for those large operations which due to their geographic conditions can conduct traditional animal raising only in a limited extent, also to be given 40-percent state subsidies for goat-raising buildings in the interest of using unplanted areas.

The new subsidy regulation which will go into effect on 1 January 1980 continues to provide increased aid to the development of cattle raising and hog fattening by capacity expansions, according to the following rules:

1. The major agricultural operation may receive a basic subsidy of 16,000 forints for each new cattle space constructed and in addition to this a special subsidy equal to 10 percent of the cost of establishing these spaces, if it builds all the facilities necessary to operate the cattle-raising operation, or if those are available in an operable condition. But only those major agricultural operations are eligible to receive this subsidy where the annual milk production averages per cow exceeded 3,000 liters before the investment.

If, for example, a state farm or producer cooperative wants to expand its existing 600-space milk-producing dairy operation by an additional 200 spaces, it will receive the above-mentioned subsidy only if its annual milk production average in its existing operation exceeds 3,000 liters, and if it will also build the calving spaces, milk storage, water supply facilities and electrical installations needed to operate the facility with space for 200 cows, or if these already exist. The situation is the same also if the operation wants to build a completely new dairy cattle facility. Depending on the operation's given conditions, when improving a milk-production facility other cattle-raising buildings, structures must also be built for the operation. This subsidy amount contains also the subsidy for those other facilities which the operation builds in the interest of properly operating the dairy operation, in addition to the compulsorily specified buildings and structures.

2. The major agricultural operation may receive a state subsidy of 3,000 forints per space to build beef cattle spaces. This amount contains only the subsidy for construction costs of beef cattle spaces. In addition to this, similar state subsidies may be given by statute for the construction of other facilities needed to operate each beef cattle space of the given facility.

If, for example, a state farm builds water-supply structures (well, water piping) to operate a newly built beef cattle space, it may requisition an additional 20-percent state subsidy for the actual cost of the water supply facilities, besides the 3,000 forints per space.

At the same time, the regulation makes it possible for the operation to receive 17,000 forints of state subsidy per cow within the maximum of 12 months to help populate the new spaces when the beef cattle inventory is being increased. This subsidy increases the operation's revolving fund.

This subsidy opportunity means that if an operation builds new cow barns to house 100 beef cattle, it may receive a state subsidy of 300,000 forints to build the barn. If it populates the cow barns placed into operation within 12 months, and the operation's beef cattle inventory increases by 100 head, after populating it it can receive 17,000 forints per cow for the additional 100 head. But if, after populating it, the operation's beef cattle stock is only 80 head more, the 17,000 forints of state subsidy can be applied only for the 80 head.

3. The major agricultural operation and the meat industry enterprise may receive 3,600 forints of basic subsidy per hog-fattening (final fattening) space when they add to their hog-raising operation, and in addition to this they may receive a special subsidy equal to 20 percent of the total cost. But only those operations or enterprises are entitled to receive the subsidy where in the 2 years before the investment, the average of fattened hog production per fattening space exceeded

-- 190 kilograms from a specialized hog fattening lot,

-- 150 kilograms from other hog fattening spaces.

A further condition for use of the subsidy is that the piglet-delivery facility, sow-housing spaces and spaces for breeding stock, as well as the water-supply and energy-supply facilities needed to operate the fattening lot also be built at the same time. The state subsidy can also be given if the above mentioned facilities already exist.

In earlier years the MEM had several technical plans worked out for frequently built buildings with various technical solutions and informed the operations about these in a publication. These technical plans help the operations build such buildings, using prefabricated structures, more rapidly. The subsidy statute specifies that the subsidy can be granted for those buildings for which the MEM has published the above-mentioned technical plans only if the buildings are built according to these plans, or if the MEM grants a special permission to deviate from the plans. The method of issuing the special permit is defined by the MEM's Main Agricultural Department in information published in the MEM ERTESITO.

Calculating the Subsidy Amount for Construction Investments

Paragraph 2, Section (1) of Joint Order No 42/1979. (XI. 1.) PM-MEM defines the extent of subsidies in terms of percentages. The following procedures are to be followed when determining the sum of subsidies defined in terms of percentages.

The total cost of the investment is composed of material-technical costs (evaluation, basic documents, construction plans), preparation, execution (construction-installation, technological machinery, technological machinery installation), and investment performance costs.

The following must be subtracted from this total cost:

- a) the amount of loss reimbursement received for the establishment of capacity-replacement fixed assets within the framework of special loss-abatement proceedings conducted on the basis of Paragraph 17 of Legal Statute No 24 of the year 1976;
- b) the amount of loss reimbursement received for the expropriation of fixed assets;
- c) development contributions received without repayment obligations from an enterprise or organization listed under other than the agricultural branch;
- d) the value of technological machinery and equipment purchased at prices reduced by subsidies.

But those amounts which were made available to the agricultural operation by an enterprise or organization listed under other than the agricultural branch for implementing the investment

-- from its technical development fund, or

-- from the environmental protection fund,

do not have to be subtracted from the total investment cost used as the base for calculating the sum of the subsidy.

Further, monetary sums given without repayment obligation to implement the investment from the development funds of enterprises processing agricultural products do not have to be subtracted from the total cost.

For example, a special expropriation proceeding took place at an agricultural operation for a major state investment. To replace the income lost on the expropriated land area, a compensatory sum is provided for the operation to build a 100-hectare irrigation facility as reimbursement.

However, the agricultural operation--due to its given water management circumstances--builds not a 100- but a 300-hectare irrigation facility, to a large extent for the purpose of irrigating vegetables. The refrigeration industry enterprise also contributes 1 million forints without repayment obligation for the construction of the 300-hectare irrigation facility. In this case calculating the subsidy's amount for the investment is done as follows:

Total cost of the irrigation facility is 12 million forints.

The amount of 4 million forints received at the special loss reimbursement is to be subtracted from this.

The sum to be used as basis for the subsidy amount is 8 million forints. The 1 million made available by the refrigeration industry does not have to be subtracted. On this basis the amount of subsidy is 40 percent of the 8 million, that is, 3.2 million forints.

Requesting Subsidy For Construction Investments

Subsidies for construction investments must be requested in writing prior to commencement of the construction work from the appropriate megye office of the PM's (Ministry of Finance) Main Revenue Authority in the megye in which the investor's facility is located.

The following documents must be submitted when requesting the subsidy:

1. For investments in excess of 25 million forints of total cost, one approved copy of the basic investment document prescribed in the legal statute concerning the system of investments, and one copy of the supporting opinion of the approving organ specified in the statute mentioned;
2. At all construction investments, one copy of the budget prepared on the basis of technical plan documentation, the building's layout plan, or, where several buildings are involved, their overall layout plan, and, in the case of construction to be completed over several years, the yearly rate of completing them. For irrigation facilities, the arrangement of line facilities (line trackage) must also be submitted in addition to the outline of the irrigation facility, and also the interconnection between the water-management facilities;
3. Proof supplied by the appropriate branch of the Hungarian National Bank that the development resources necessary in addition to the subsidy--also including the amount of mandatory reserves--are available in accordance with the projected annual schedule, and the portion for the subject year has been set aside;
4. permits issued by the authorities as required to begin the investments (construction permit, etc);
5. for investments implemented on the basis of competition, the decision of the organ judging the competition concerning the fact that a subsidy may be used to implement the investment.

The megye's revenue office, on the basis of the submitted documents, subsidy key formulas and the budget, or of the fixed subsidy amounts, will issue the subsidy document. For investments to be completed over several years, the document is issued for the entire investment, in a year-by-year breakdown. For an investment which includes several establishments (as a cluster), the document is issued for the overall establishment.

For example, in the case of building an irrigation facility, one document is prepared for the water-removal plant, the network of canals which serve

to supply and to drain off the water, the pipe network of the irrigation facility, and the pumping plant.

If implementation of the investment was begun prior to issuing the document, the megye's revenue office cannot issue a subsidy document. The implementation work begins with

--the first entry made in the construction diary for construction and installation jobs,

--the first entry made in the installation diary for technological machinery installation jobs.

The megye's revenue office sends the subsidy document to the investor through the Hungarian National Bank.

The subsidy document becomes void if the implementation work does not begin within 6 months from the date specified in the document for starting the job.

For example, if an agricultural operation requests a subsidy document for a cow barn which falls under subsidy limitations in 1980 for commencement in 1981, implementation must begin within 6 months calculated from the 1981 date for commencement specified in the document. But, in possession of the subsidy document, construction may begin even before 1981, but the state subsidy cannot be made available until after 1 January 1981.

Financial Sources For Investments, Use and Accounting of the Subsidy

In accordance with the yearly schedule, the financial resources of investments are used in the following order, based on actual expenditures. First one's own resources scheduled for the subject year are issued, then the state subsidies, and finally the investment credits.

Subsidies to construction investments must be accounted for after completion of the implementation, at the megye's [revenue] office, on the section of the subsidy document designated for this purpose. The construction investments must be completed within 24 months calculated from commencement of the implementation, and the subsidy must be accounted for within 60 days after technical release and acceptance of the investment for production.

Construction investment in excess of 25 million forints in expenditures must be completed within 36 months calculated from commencement of the implementation and the subsidy must be accounted for within 90 days.

At construction projects which include several facilities, if the technical release-acceptance occurs in several stages, the subsidy must be accounted for within 60 or 90 days, respectively, after the technical release-acceptance of the last facility to be completed.

The investor must return to the bank which issued it the amount of subsidy to be returned, according to the accounting, at the same time the accounting is submitted.

If, according to the accounting, additional subsidy is to be paid beyond what subsidy monies have already been spent, the bank which provides it will credit it to the investor's account within 30 days after the accounting, on the basis of steps taken by the megye's revenue office.

If the major agricultural operation does not account for the subsidy within 60 or 90 days after completion of the investment, it must pay 1 percent interest per month for the subsidy accounted for, for the time period of the delay.

Utilization and Control of Construction Investments

The subsidy regulation also stipulates the utilization of fixed assets created with the aid of subsidies, and specifies the application of sanctions for cases of premature abandonment or use deviating from the designated purpose. These are as follows:

1. If the major agricultural operation, prior to full amortization, sells or leases a building or structure built with subsidies after 1 January 1967 to an organ which is not entitled to subsidy, that portion of the accounted subsidy which is in proportion with the yet unamortized proportion of the building or structure must be paid back.

The statute makes exceptions to this regulation only when the major agricultural operation turns over without fee a water-supply facility built with state subsidy (well, water tower) for the population's purposes, to a public utility water and canal works enterprise.

2. The time proportional share of accounted subsidy must also be paid back if the building or structure built with state subsidy after 1 January 1967 is abandoned prior to less than 75-percent amortization. The subsidy does not have to be paid back if the building or structure was destroyed due to damage caused by the elements.

3. If a building or structure built after the first day of January 1968 with subsidy is used for purposes deviating from its original purpose, that portion of the accounted subsidy proportional to the yet unamortized share of the building or structure must be paid back, if

--the building or structure built with 30 percent or higher subsidy is used for other than the original purpose,

--the building or structure built with less than 30 percent subsidy is used for purposes other than agricultural production.

However, the statute also declares that if lower amounts of subsidy can be granted for the purpose deviating from the original purpose, then only the difference between the subsidies which can be granted according to this regulation has to be paid back.

For example, if the operation uses a building built for hog fattening, to house sheep, the subsidy does not have to be paid back because according to the subsidy statute 40-percent state subsidies can be used for both, hog-raising and sheep-keeping buildings.

If the operation uses the above-mentioned hog fattener as a building for raising poultry, it has to pay back only half of the accounted subsidy's time proportional share, because a 40-percent subsidy can be granted for hog-raising buildings and a 20-percent subsidy for those to raise poultry.

If the hog fattener is used perhaps for some type of industrial operation, the time-proportional state subsidy must be paid back.

The statute also makes stipulations about using the capacities of certain buildings and structures. According to the regulations, the operation which does not make at least 80-percent use of cattle-, hog- and sheep-raising spaces after 1 year calculated from the technical release-acceptance, must pay 1 percent interest per month on the accounted subsidy for the time period of inadequate utilization. If these spaces are not used to the extent of at least 80 percent within 2 years calculated from the technical release-acceptance, the interest increases to 2 percent per month.

Similarly, 1 percent per month interest must be paid for the accounted subsidy, if

--the storage building is not used for at least 3 months during the storage season,

--the grain-feed blender is not used to at least 75 percent of its capacity specified in the subsidy document, on a one-shift basis.

II. Subsidy To Plantation Investments

In general, a 40-percent state subsidy can be used for planting vineyards and fruit orchards.

State subsidy in terms of percentage of the expenditure cost can be used to establish quince, almond, asparagus and hop plantations, to establish fruit and grape stock plantations, to modernize grape and grape foundation stock plantations, to convert saleable grape vineyards to stock plantations, to modernize existing saleable grape vineyards and fruit orchards.

The statute specifies state subsidy for establishing new saleable grape and fruit orchard plantations in fixed amounts corresponding to the extent

of 40 percent [sic]. The fixed subsidy amount includes the subsidies for preparation, costs of planting and care until a crop is produced, as well as for the necessary bracing equipment and fences.

The statute puts conditions on the delivery of subsidies for establishing and modernizing plantations. The most important condition is that subsidies can be granted for establishing new plantations only if the appropriate organs have issued a permit for establishing the plantation.

In addition to this, the subsidy statute also specifies other conditions for subsidies to establish new plantations by major agricultural operations. They are:

--The state farms, producer cooperatives and winery enterprises must conduct the major operation's grape or fruit production on at least 100 hectares.

This condition can be met in the following ways: if the operation already has 100 hectares of vineyards or fruit orchard area, subsidy can be given without limitations on area for establishing additional plantations. For fruit orchard areas, the 100-hectare figure refers to the total fruit orchard area regardless of types of fruit; if the existing vineyard or total fruit orchard area of the major agricultural operation prior to planting does not reach the above-mentioned 100 hectares, state subsidy can be given for the new plantation if it will bring to 100 hectares the existing plantation of the major operation within a maximum of 3 years. In the wine-producing area of Tokajhegyalja [the foot of Tokaj mountain] the existing vineyards must be brought up to 100 hectares within 5 years.

For example, if a producer cooperative's total fruit orchard area--made up of various types--is 60 hectares prior to planting the new plantation, the producer cooperative must establish a total of at least 40 hectares of new fruit orchards in 3 years to qualify for the subsidy. Naturally the 40 hectares can also be planted by a schedule spread over 3 years.

If the major agricultural operation does not yet have vineyards or fruit orchard area, subsidy for the new plantation can be used only if the operation within a maximum of 3 years--according to the year-by-year schedule as necessary--establishes a total of 100 hectares of vineyards or fruit orchards. In the Tokajhegyalja wine-producing area, the 100 hectares of grapes must be planted within 5 years.

If the major agricultural operation grows only berry-type fruits, then instead of the above-mentioned 100 hectares it has to have only 3 hectares of berry fruit area, or within a maximum of 3 years it has to plant at least 3 hectares of berry-type fruit area. Naturally if the above-mentioned 100 hectares of fruit plantations also include berry-type fruit areas, then the area limitations do not apply to this latter plantation.

These conditions are also valid for the specialized agricultural cooperatives and for the jointly performed establishment of plantations by the agricultural

speciality groups with the difference that within a maximum of 3 years, in the vineyard or fruit orchard areas

-- 2 hectares must be achieved for berry-type plantations,

-- 10 hectares for other fruit types,

-- 5 hectares for grape plantations. In the Tokajhegyalja wine-producing area 5 hectares of grape plantations must be achieved within 5 years, including the new plantings.

It is a further condition for subsidizing the planting and modernization of plantations that propagating materials with verified origins and standards quality must be used for the plantings, and at least one horticultural specialist with secondary-level training must be employed to direct the growing of grapes and fruit.

The conditions for subsidizing vineyard and fruit orchard modernizations are regulated in detail, and the regulations are contained in Appendix No 4 of Joint Regulation No 42/1979. (XI. 1.) PM-MEM. Basically, these define to what size areas, what age plantation modernization can subsidy be given.

Tables 1 and 2 of Appendix No 4 of the above-mentioned statute contain the subsidy amounts for the individual fruit types and for establishing the individual grape plantings, broken down by region and type. It has happened at times that due to the operation's inherent conditions or to other trade reasons it is justified to implement certain plantations by area and type specifications differing from those in the tabulations. Appendix No 4, part I. Point 1/d. provides the opportunity to deviate from the area specifications by plus or minus 15 percent. This deviation possibility must be interpreted per square meter of area. If the operation wishes to establish plantations by greater than the plus or minus 15 percent deviation for any reason, it must request a permission from the MEM's Main Agricultural Department to do so.

Requesting Subsidy for Establishing Plantations

Just as for construction investments, subsidy for investments for the establishment of plantations must be requested prior to starting work.

The following must be submitted to request a subsidy:

1. for plantations the expenditure cost of which exceeds 25 million forints, one approved copy of the investment's basic document specified in the statute dealing with the system of investments, and one copy of the evaluation provided by the organ evaluating it;
2. the layout drawing for establishing or modernizing the plantation, and the budget for implementing it;

3. proof from the appropriate branch of the Hungarian National Bank that the development resources needed in addition to the subsidy are available in accordance with the year-by-year planned schedule and have been set aside for the subject year;

4. the permit to establish the plantation.

If establishment of the plantation was begun prior to the issuance of the subsidy document, the megye's revenue office cannot issue the document. The work of establishing the plantation commences with planting the propagation material. Soil preparation, nutrient replenishment jobs done prior to planting the propagation material are not to be considered as commencement of the establishment of plantation. However, for plantation modernizations even the cutting out of [old] rows [of plants] must be considered commencement of the modernization work.

The megye's revenue office issues the subsidy document for establishing or modernizing a plantation to run until it begins to produce; it is broken down to a year-by-year schedule. The document contains the amounts of copies of subsidy which may be supplied for the costs of soil preparation, planting, care, fences and the necessary bracing equipment.

The subsidy document becomes void if the planting or modernization work is not begun within 6 months calculated from the starting date specified in the document.

Financial Resources of the Plantation Investments, Use and Accounting of the Subsidy

The financial resources of plantation investments are used in the following order, based on actual expenditures and in accordance with the annual schedule. First, the operation's own resources scheduled for the subject year, then the state subsidy, finally the investment credit is made available.

Subsidy for establishing and modernizing plantations must be accounted for within 60 days after the date specified in the document for establishing the plantation when it is to begin to produce, on the portion of the subsidy document designed for this purpose. If commencement of producing does not occur by the date defined in the document for establishing the plantation, the megye's revenue office may extend the deadline for the accounting by a maximum of 1 year.

The sum of subsidy to be paid back according to the accounting must be submitted by the investor to the appropriate branch of the Hungarian National Bank at the same time the accounting is submitted. If further subsidies are to be paid out according to the accounting, the bank, upon action taken by the megye's revenue office, will credit it to the appropriate account of the investor within 30 days.

If the major agricultural operation does not account for the subsidy within 50 days after the plantation begins to produce, it must pay an interest of 1 percent per month for the subsidy received.

Utilization of the Plantations

If the producing plantation is abandoned prior to 75-percent amortization, the portion of the accounted subsidy proportional to the plantation's not yet amortized proportion must be paid back.

The state subsidy does not have to be paid back if the abandoned plantation started to produce prior to the first day of January 1967, or if the abandonment was necessary due to damage caused by the elements or to extraordinary plant health damage. Extraordinary plant health damage is determined by the National Seed and Propagation Material Authority.

III. Subsidy For Machinery Investments

The major agricultural operations, agricultural industrial associations, winery enterprises, water resource management associations and economic associations of major agricultural operations conducting forestry management activities, may purchase the following machinery at prices decreased by subsidy:

With 15-percent subsidy:

agricultural machinery listed in the Index of Industrial Products under the numbers from 39-2 to 39-9 inclusive, fruit-picking stands, metal and plastic storage tanks of less than 15 cubic meters capacity for storage of liquids and solid materials (for example wine-storage tanks, grain-feed storage tanks, etc), suction pumps for liquids, hot-air blowers, conveyor belts, dredging machinery, power-driven chain saws, bark-removing and firewood-splitting machinery, machinery and equipment for processing milk and for producing dairy products, grape-processing machinery, tractor-pulled and special-purpose trailers, fishing rowboats;

with 20-percent subsidy:

tractors listed under number 39-1 in the Index of Industrial Products;

at prices decreased by a 40-percent subsidy:

special sowing and planting machines, harvesting machines and adapters, product classifier and handling machines for growing potatoes, sugar beets, tobacco, hops, vegetables and fruit, as well as for the production of propagating materials for vegetables and fruit, by those organizations which are entitled to receive subsidies. Also, fibrous and bulk fodder harvesting machinery, machinery and equipment for obtaining nutritive materials from straw and cornstalk, silage cutters, and milking machines can be bought at prices decreased by 40-percent subsidy.

State subsidies of 40-percent can also be given for the purchase of the special machinery lines for felling poplars and trees of the forests.

The AGROTROSZT [Agricultural Supply Enterprise] provides information about subsidies which can be granted for purchasing machinery originating in nonsocialist countries, at the time orders are placed.

Making use of the subsidies for machinery investments differs from the method of using the construction and plantation establishment subsidies. Machinery for which the state provides subsidies, is billed to the purchaser by handling (sales) organization at prices already reduced by the subsidy. The subsidy is accounted for by the sales organization after the sale. If the major agricultural organization manufactures at its own overhead, for its own use, machinery for which subsidy can be given, it can also account for the subsidy to the extent defined in the statute for the machine manufactured at its own overhead, as a production price subsidy.

IV. Subsidy For Improvement Projects

The system of subsidizing improvement projects is essentially the same as at the present. The opportunity exists to subsidize such activity to the extent of the budget defined in the plan, or in the national budget.

The system which will go into effect as of 1 January 1980 places emphasis on implementing the improvement projects in a comprehensive manner, therefore all interventions in comprehensive improvement projects can be subsidized to the extent of 70 percent. Comprehensive improvement contains all component elements of the locally needed improvement in accordance with the production (utilization) requirements.

Also 70-percent subsidies can be given for water-supply-reorganization projects of local public and industrial purposes. Water-supply-reorganization projects of local public utility significance are implemented within the framework of water management associations.

Among the improvement projects, a 50-percent state subsidy can be given for area reorganization, soil protection and soil improvement projects. Such jobs done within the framework of comprehensive improvement also enjoy 70-percent state subsidy.

The statute continues to provide special subsidies for improvement projects in the Tokajhegyalja wine-producing area in preparation for planting grape. In areas where the slope grade exceeds 10 percent. For improvement projects performed here in preparation for planting grape, a 90-percent subsidy can be authorized, a maximum of 315,000 forints per hectare for new grape plantations, a maximum of 150,000 forints per hectare for modernizing existing vineyards.

The following organs issue authorizations for improvement subsidies to the extent of the approved annual improvement subsidy budget:

1. the megye council's agricultural and food industry department for producer cooperatives, agricultural specialized associations, agricultural specialty groups and winery enterprises;

2. the National Center for State Farms [AGOK] for the state farms;

3. the megye council's agricultural and food industry department on the basis of recommendations by the appropriate water-management authority for the water-economics associations.

State subsidies for comprehensive improvement projects are authorized for all organizations by the megye council's agricultural and food industry department.

After the subsidy is authorized--just as for the construction and plantation-establishing investments--a state subsidy document must be requested from the megye's revenue office also for the improvement projects.

Upon an initiative taken by the megye's department of agriculture and food industry or by the National Center for State Farms, the megye's revenue office is required to withdraw the subsidy document, or to decrease the sum of subsidy scheduled for the subject year, if work is not started within 60 days calculated from starting date specified in the document, or if the work is not done in conformity with the implementation plans accepted at the time the permit is issued.

Subsidy for improvement projects must be accounted for after the work is completed, within 60 days following payment of the final bill, at the megye's revenue office on the section of the document designed for this purpose. Periodic accounting must be given to the megye's department of agriculture and food industry or to the National Center for State Farms, and to the megye's revenue office, about the accomplishment of jobs in the subject year for jobs which last for several years, and about the amount of subsidy used for them.

If accounting for improvement projects is not submitted within 60 days following payment of the final bill, 1 percent per month interest must be paid for the time period of the delay for the subsidy used.

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ECONOMIC EQUILIBRIUM REQUIRED FOR REBUILDING PLANNING-MANAGEMENT SYSTEM

Warsaw POLITYKA in Polish No 50, 15 Dec 79 pp 1, 7

[Article by Wiktor Herer and Wladyslaw Sadowski: "Directions of Thought about the Future"]

Progress in the field of consumption increase, as experienced in the first half of the 1970's, was really considerable. This intensifies the paradox that these achievements did not bear corresponding fruit in social awareness. Why do these things happen? Actually, consumption increase is only recognized with a corresponding social response if it is accomplished under sound market conditions.

In this connection a question of fundamental importance should be answered. If such a rapid increase in market supplies including meat as that achieved in the first half of the 1970's did not find a proper response in social awareness, what kind of response will there be to the necessarily slim increment which we must plan for 1981-1985?

There is a well-justified fear that the very moderate increase presented in the Guidelines for the Eighth PZPR Congress will have to continue under conditions of an extreme imbalance between the demand for individual products and their supplies, while the low rate of consumption increase creates the feeling of growing shortages in social awareness. It seems that there is a major danger which every economist, gifted with a feeling of social responsibility, must take into consideration.

In anticipating such a development of the situation, we must obviously face the following question of whether the rate of growth in production and consumption can be greater than that which was proposed. The lack of detailed information does not permit us to take a completely unilateral position in this matter. However, many years of experience and familiarity

with the craft of planning do not incline us toward an overly optimistic evaluation of the future. Many important factors are more indicative of the fact that the modest rate of consumption increase presented in the Guidelines has been set realistically and that it will be very difficult to exceed it.

Obviously the above appraisal of possibilities does not eliminate the need for seeking ways to accelerate the growth of production and consumption, although it is difficult to judge to what degree suitable actions will serve more to achieve what was presented in the Guidelines or to obtain something better. Still one thing is sure. The search for such things cannot be conducted by means of traditional models and by using traditional thought processes. A special economic situation requires specific methods of acting.

Above all a comprehensive, complete analysis of the current state of all major domestic economic links is necessary. Although not the only purpose of this analysis, a major one should be the detection of bottlenecks, because in the current economic situation characterized by disruption in the equilibrium, undertakings associated with the elimination of bottlenecks are a foremost, extremely effective and productive direction of economic activity. This is the link which should be grasped first in order to pull the whole chain.

Foremost Problems

Here, and in conformity with the suggestions contained in the Guidelines, bottlenecks in the area of energy, transportation and supplies of raw and other materials will certainly come to the forefront. All of this seems to indicate that transportation and energy are still not being granted sufficient priority. Therefore there ought to be consideration of the possibility of creating a program to re-establish equilibrium in the electrical energy and transport service balance during the course of work on the 5-year plan, said program to be a special one designed for 3-4 years beginning as early as 1980. The strategic idea of such a program would be to concentrate the efforts of the entire economy upon undertakings raising the output and the quality of transport and energy work. The concentration of these efforts would be at the cost of even greater sacrifices in other sectors of the national economy, except for areas of defense (about which more later), because we postulate that improvement in the works of both of these sectors can be achieved on the basis of additional outlays. The above program should focus special attention on short-term undertakings associated with improvement in the use of existing production capacity. Relatively rapid advances in the functioning of both of these sectors can be achieved by implementing various types of modernizing, organizational and salary undertakings, and particularly through basic improvement in supplies of spare parts, the repair base, supplies of means of transportation and finally in the quality of fuel delivered to electric power plants.

We must anticipate that the re-establishment of the balance by means of activity directed only at increasing supplies may not produce satisfactory effects, and that they may require complementation by suitable methods aimed at limiting the demand for transportation and energy services in a process of careful selection. Here demand associated with initial investments should be treated with special rigor, and absolute priority should be granted to needs associated with more complete exploitation of existing production capacity. Obviously a reduction in demand may also require certain structural changes in industry and in the choice of technology (particularly in construction and agriculture), limiting requirements for energy and transportation. It is possible that a need may also arise to stimulate thrift in production consumption and to change the prices of energy and of transportation tariffs.

The proposed undertaking may prove to be very effective from the viewpoint of its effect on production increases and, in particular, on market and export production, the strong reaction of which in improving the situation in the energy and transportation balance seems to be very probable. This is because granting transportation and energy absolute primacy creates priorities which differ from others compulsory in the past (for example, the priority of market production), in the fact that the latter often opposed various phases of the economic process and, as a result, somewhat disintegrated the economy. On the other hand the priorities contained in our proposal are oriented toward fields which serve every phase of the production process in the national economy and in view of the fundamental and vital importance of the services rendered by them, make it possible to exploit more completely the production capacity of all of its links and stimulate reciprocal cooperation among them. Therefore they are priorities which integrate the national economy and strengthen its base by stimulating final effectiveness somewhat automatically under our conditions.

It will obviously be more difficult to achieve the program of balancing the productive capacity in the national economy with the needs for raw and other materials. The goal of achieving a balance certainly should not appear in a proposal for strained and rather unreal export tasks financing the import of raw materials and other materials: in this field the uncertainty factor is so great that the formation of firm plans seems to be particularly dangerous. Therefore, without neglecting export efforts, the situation should preferably be based on the introduction of material-saving technologies which do not reduce the quality of products and services and which produce rapid effects. Here also steps in the area of far-reaching selection of needs will be indispensable. We shall even have to renounce the production of surplus of otherwise valid goals. It may also prove necessary to boldly relinquish some decisions which turned out to be erroneous. In such a case it is necessary to discuss these errors in a realistic way, without ranting and hysteria, and granting those who made the decisions the right to make a mistake.

In order to relax the raw material barrier it will also be necessary to prepare several variations of the plan for gradual restriction of growth, followed by a reduction in our foreign commitments. This last matter will have to be approached calmly, without any complexes. Above all it should be well understood that the expedient condition which our economic policy should aim at achieving and then maintaining for a time is not virginal purity in the area of indebtedness, but the optimal relationship between indebtedness and the cost of servicing it on the one hand and the national income and export to capitalist countries on the other. Speaking logically this desired relationship can be approached either by way of a relatively rapid reduction in the foreign debt load, which is always burdensome because it imposes more or less drastic limitations on imports, or through expanding the national income and exports. We must not begrudge efforts in our struggle to reduce the currently existing relationship between indebtedness and the national income and exports to capitalist countries, reducing them as far as possible, not only through a reduction in the absolute value of debts (obviously a matter of real value compared to the degree of inflation), but particularly by increasing the national income and exports.

Plan Status

One of the basic reasons for the condition of imbalance suffered by our economy is clearly the diminished status of the 5-year plan. This is presumably the main source of the subjective factors which have dislocated our balance of transportation and energy. Therefore we believe that strengthening the role of the 5-year plan will also be a factor acting in the direction of accelerating growth.

In speaking of the need to strengthen the planned nature of our development we are demanding a decisive opposition to the emerging processes of disintegration which have invaded our economy under the catchy slogan priority for market production. In its practical execution it puts in opposition the final production of market goods and the production of equipment necessary for it, as a result of which co-production is disorganized, dangerous voivodship particularism can be produced (or rather additional market production can be given to a voivodship even though it may disorganize production in the rest of the country), and in the final analysis it can cause a reduction in market production instead of increasing it.

The strengthening of the role of the 5-year plan should be accompanied by a rise in the quality of central planning decisions. Among other things this means that many decisions, announced in the Guidelines and concerning the initiation of new investments in the area of obtaining raw materials and producing energy, were adopted under conditions of discussion about principles.

Changes in Agrarian Structure, Not Rate But Quality

The development of agriculture will proceed under conditions relatively less advantageous than in past years (demographic changes and the need to reduce the value of imports of grain and fodder). In this situation a further growth in production will depend on whether, thanks to a suitable farm policy, we can more effectively limit the negative results of these rather difficult conditions. We must first of all exhibit our wisdom in making changes in the agrarian structure, deriving inspiration from the realities of the national economy of our country. This in turn requires that attention be given to the total complexity of the problem of social changes in agriculture. Available published sources clearly show that the average net final production on State Farms continues to be lower than that on peasant farms when computed per hectare. This final net production is further reduced by the consumption of liquid fuels, mineral fertilizers (State Farms consumed twice as much fertilizer per hectare as peasant farms), foundry materials and cement, and thus production appraised with a standard which is of particularly essential importance from the viewpoint of our foreign trade balance.

In the above context it is worth calling attention to the fact that the greatest final production per unit area of arable land is found on peasant farms in the group ranging up to 3 hectares in area. These farms are also characterized by the lowest import intensity. What does this lead to? Certainly not to a demand for freezing the current agrarian structure. Changes must be made in this structure because we are entering a period of demographic decline in the age groups capable of working, and there will be more and more farms without successors. However, we must restrain ourselves from actions which will intensify the effects of these inevitable processes. It is not the rate of change in the agrarian structure (it is not always a case of the faster the better), but the quality of change which will determine its beneficial effect on growth in agricultural production and the entire economy. On the other hand quality is primarily a matter of effective economic implementation of land made available from farms left without successors. Some of this land must be taken over by the state which will be charged to some degree with this function under any agricultural policy. However, this burden should not become too great. After all, it is important for the increased area of the state and cooperative sector to be accompanied by fundamental changes in the planning and management system, capable of radically reducing the material, import and capital intensiveness of production in these sectors. In order to create favorable conditions afterward, the increase in the PGR [State Farms] area should not be too rapid because it is difficult to cope with two tasks at the same time: the rapid increase in area and the rapid increase in effectiveness. Furthermore we do not have proper resources available for a rapid increase in this area, particularly under the current conditions of a relatively very high capital and material intensiveness in PGR production.

In this situation it is necessary to do everything possible for the largest share of the land released by farms left without successors to be taken over by individual farms, thus increasing their area, as well as by farmers united in teams and in production cooperatives. Paralleling the concentration of land everything should also be done to develop production on small peasant-worker farms and on the plots of workers, this being the least capital-intensive and import-intensive production, often scorned by various technocrats and bureaucratic officials, although it is important because it is the source of supplies for a considerable part of the rural population.

Two Way Activity

Above we have presented proposals for various activities which could finally accelerate the rate of increase in the production of consumer goods and services. However, we believe that, in view of the limitations existing today with even the best economic policy, demand cannot be matched by an increase in production alone. Therefore closing the gap in the market imbalance requires action on both fronts, not only on the production front but also on the demand front. There would also have to be action on the demand front if a rate of growth slightly above that presented in the Guidelines were to be achieved. This is because we think that small, additional acceleration in production can only facilitate demand undertakings to balance the market, but cannot rid the national economy of the demands. Therefore a complete system of reciprocally connected methods regulating wages and retail prices seems to be absolutely necessary.

Still, it must not be forgotten that even reasonable price and wage operations, neutral with respect to the real purchasing power of the entire consumer community (meaning balanced by a suitable mass of goods), can be changed mainly by the real purchasing power of individual income groups. Therefore there is an absolute need for all enterprises regulating demands to guarantee protection of the interests of the economically weakest group in the populace.

Here resources are obviously needed. Where can they be dug up? Some of these resources must, to some extent automatically, put a limit on the incomes of those groups which derive great benefits from the lack of market equilibrium (various extortion collectors, favorites, under-the-counter salesmen and so on). But this is not enough. A definite restriction on the income of the economically most powerful group of people will also be necessary. Finally it will be necessary to repeatedly attend to the supply side of the balance. It would certainly be totally desirable for all operations regulating demand to be able to be conducted on the crest of a certain acceleration of production increase, which could definitely be achieved as a result of the methods proposed above to effect the increase in supply.

We will realize the social complexity of the undertakings proposed to regulate the demand for consumer goods. It is probable that they are not feasible under current conditions. However, no circumstance frees us from the obligation of presenting both the need for price and wage reform and the economic, moral and social effects of omitting them, although the two aspects of this matter do not enjoy equal popularity.

Since the growth rate has to be slow, it is only possible to promise that, if the undertakings to balance supply and demand are successful, the people will be able to stop standing in line and experiencing other types of degeneration flowing from the breach in the market balance.

There should also be a guarantee that, in the period characterized by the need for thrift and careful selection of needs, zones of defense benefitting from special rights and priorities be isolated and given effective attention. This should include the directions of production and consumption, neglect of which causes irreversible losses which cannot be compensated for in the future. Here we would mention residential construction, some outlays associated with the physical and mental development of children and youth, and some outlays for the development of culture and science. Those fields which have extraordinary significance for the normal functioning of social life (supplies of medicine, equipment and materials for the health service, urban and interurban transportation) should also be given special protection. It should be noted that all of the above fields (except for residential construction) can be given preference and protection at the expense of relatively modest outlays, not entailing any special harm to other fields, but still highly effective socially because of their immediate effect on what determines the quality of life.

Main Link

The reader may have noted that so far we have not mentioned an extremely important matter, the possibility of accelerating growth by improving management effectiveness. Why?

This is because effectiveness cannot be obtained by pestering or by force. The necessary premise for an increase in management effectiveness is modernization of our entire system of planning and managing the national economy, which has become outdated and is not always amenable to modern conditions. The modernized system must be based primarily on independence of enterprises, on the fulfillment of a significant part of the tasks of the central plan through indirect methods, by the implementation of various economic mechanisms. This direction really seems to promise significant possibilities for implementing reserves in the growth of effectiveness, but again its effectiveness arouses basic doubts.

This is because we are undoubtedly facing a very difficult situation. A shaky balance makes it impossible to conduct effective reforms in the system of planning and managing the national economy, while the lack of such reforms and the preservation of the older system of planning and management make it difficult to balance the economy.

What we are presenting is really a proposal to breach this endless cycle. In searching for its weakest links, let us say: First let us re-establish equilibrium in those fields which are important to the entire economy, and which at the same time are suitable for rapid and effective action basically streamlining the current system of planning and management. Transportation and energy are precisely such fields of fundamental importance to the entire national economy, with relatively simple co-productive relations and a simple system of organization. Mastery of the situation in both of these branches will form a bridgehead from which it is possible to attack the enemy throughout the national economy, gradually eliminating the imbalance from all of its fields during the 1st years of the 1980-1985 period.

Only the attainment of equilibrium will create the indispensable economic premises for the adoption of the second great strategic operation in the following years of the 1980-1985 period, revamping the system of planning and managing the national economy. The first steps in this area, directed toward thrift in the use of raw materials and other materials and toward an increase in exports can then be taken in the years immediately ahead, implementing them along with the fulfilment of the task of restoring economic equilibrium. Likewise for various reasons agriculture is a field which can immediately proceed to relatively simple and effective changes in the planning and management system, promising rapid economic effects.

Immediately the question comes to our lips as to what will follow 1985. Will settling the difficult conditions of 1980-1985 open more favorable prospects to us for the more distant future? There seems to be no doubt that a reasonably propitious revamping of the planning and management system should clear a path for us to accelerate the growth of the national economy in the later period following 1985.

6806

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SYSTEM OF PROVIDING LOANS FOR PRIVATE HOUSE CONSTRUCTION DESCRIBED

Warsaw NOW DROGI in Polish No 11, Nov 79 pp 104-111

[Article by Witold Bien, undersecretary of state in the Ministry of Finance: "The Provision of Loans for Private Construction"]

[Text] Private construction is a substantial factor for the better satisfaction of the population's housing needs. Out of 291.1 thousand housing units readied for use in 1978, 74.3 thousand were the result of private construction. The share of this construction is even more strongly evident if we consider the total use area of housing units readied for use. In 1978 this came to 18.1 million square meters, of which 7 million square meters fell on private construction.

Private housing construction can be considered in a partition into two basic groups, that of the agricultural and that of the non-agricultural population. Both types of construction satisfy the same housing needs, but there are definite differences between them.

Private construction of the agricultural population is quite closely linked to the development of agricultural production. A rural dwelling house is one of the structures of the farm in which, independently from its housing function, activities connected with agricultural production are frequently also performed (e.g., the preparation of fodder, the storing of certain products). For obvious reasons this type of construction continues to constitute the only form of satisfying the housing needs of the agricultural working in private farms.

Private construction of the non-agricultural population,¹ by contrast, serves to the largest degree exclusively the satisfaction of housing needs. Apart from this it constitutes for the most part a complement to multi-family construction. A significant part of private housing construction occurs in

1. This concept covers in the urban areas the entirety of housing construction implemented by the non-socialist sector, and in the rural areas the construction implemented by persons whose main source of maintenance is work outside of agriculture and forestry and whose land holdings do not exceed 0.5 hectares.

small localities where the development of multi-family construction would be unprofitable. This type of construction also often has a significant influence on the spatial distribution of skilled personnel.

Hence a separate consideration of private construction of the non-agricultural population is fundamental. In 1978, 41.9 thousand housing units were completed in this construction, or 14.4 percent of the total of all housing units completed. The development of this construction is beneficial for the state, among other reasons because it engages the own resources of the population for housing construction and frees socialized units from the function of investors and operators. For the citizens this type of construction is beneficial--among other reasons--because they can in this manner satisfy their own housing needs earlier and can adapt their housing conditions to individual desires.

The development of private housing construction of the non-agricultural population is closely tied to considerable aid by the state in this sphere. Many administrative authorizations have been introduced which make possible the receipt of building lots, the preparation and confirmation of documentation and the issuance of building permits, though these matters are not yet being solved correctly everywhere.

In many localities the costs of the communal installations allocated for private construction are being covered from public funds, and instruction and counselling in the field of single-family construction is being organized. At the same time the supply of building materials to the consumer market grows from year to year. Beyond this, many plants organize special help in the field of supplies of materials, equipment and means of transport for their own workers. A substantial role in the development of private construction is filled by financial aid from the state in the form of loans, as also by financial aid from the plant housing funds. The loan aid is repayable, but it fully deserves the name of aid, first, because the loans are issued for exceptionally long periods (up to 30 years, and in the case of teachers in small localities up to 45 years), and, second, because the price of the loan--i.e., the interest charge--is relatively low, amounting at the present to barely 3.3 percent annually in the case of the basic loan and to 6.3 percent for a supplementary loan. As concerns the plant housing funds, the possibility exists of drawing on them for up to 15 percent of the construction costs.

In the system of loan provision for private housing construction as it has developed in our country, the principle is observed of combining credits with the citizens' own funds. A loan can be applied for by those among the people building single-family houses who have accumulated a contribution of their own amounting to at least 20 percent of the planned construction cost.

In addition our loan policy observes the principle that the bank provides credits for objects which do not exceed a certain size (110 or 140 square meters). It also takes into account preferences for the most effective solutions (a priority right in credit allocation for structures in compact

settlements) and privileges which aid the correct distribution over space of certain types of personnel in short supply (this concerns, e.g., workers in the health service and teachers living in small localities).

It must be added that the loan assignment should take into account the execution possibilities. Hence the total volume of loans for private housing construction, which in any case are paid out according to the pace of progress of the project, cannot be shaped arbitrarily. Among other things it should take into account the prevailing situation in the field of building material supplies for the consumer market.

The total volume of loans for private housing construction of the non-agricultural population has grown from year to year. If in 1969 it amounted to 1.4 billion zlotys, it has grown to 2.6 billion zlotys in 1975 and reached 3.3 billion zlotys in 1978.²

Obviously the total volume of loans alone does not give a full picture. Hence it is worth stressing that out of 137.5 thousand single family houses of the non-agricultural population completed in 1975-1978 the overwhelming part, namely more than 72 percent, was built with an allocation of bank loans.

For an evaluation of the lending system still further information is necessary. Among others, the following questions arise: which socio-vocational groups are benefiting from the loans, in which localities does the greatest concentration of so-called credit recipients appear, what is their material situation, how are the costs and quality standards of private construction developing, and the like.

On the basis of data available in the bank we can answer that a decisive portion of the credit recipients is made of workers. Their share in the total number of credit recipients constituted 55.5 percent in 1975 and in 1978 had even increased slightly, to 55.8 percent. In some voivodships this share exceeds 60 percent (in the Katowickie, Konin, Bydgoszski, Radom, Piotrkowski and Czestochowski Voivodships). On the other hand, in the less industrialized voivodships (e.g., in the Ostroleka, Walbrzych, Koszalin and Iomza Voivodships) the share of workers in the total number of loan recipients fluctuated around 40 percent.

These data confirm a great and continuously maintained interest of workers in loans for private housing construction. It is worth adding here that this concerns not only those who combine work in the socialized economy with the possession of a small farm holding, since only every fifth loan recipient among the workers was a peasant-worker.

2. This sum does not include the loans utilized for private construction by the agricultural population.

Other employees of the socialized economy constituted 34.5 percent of the loan recipients in 1978. Almost one third of this fell on teachers and personnel of the health service. In these cases the loans exert an influence, among other things, towards a better distribution of this personnel among the smaller localities. Craftsmen operating small workshops, above all in smaller localities, constitute a sizable group among the loan recipients (7.6 percent). The remaining group of loan recipients--2.1 percent--consists of pensioners.

Hence, as we see, the socio-vocational structure of the loan recipients is quite differentiated. We can therefore assert that the conditions of loan assignment make possible a fairly universal utilization of this form of financial aid.

It is also worth considering the following facts. The average monthly income which people, to whom loans were granted in 1978, verified to the bank came to 2,283 zlotys per family member (1,712 zlotys in 1975). In this context 43.8 percent of the loan recipients declared an income up to 2,000 zlotys, 34.1 percent incomes between 2,000 and 3,000 zlotys, and 22.1 percent incomes over 3,000 zlotys. Hence we can say that almost 78 percent of the loan recipients indicated quite moderate levels of income per family member (3,000 zlotys or less).

With an average income per family of 2,283 zlotys, the total income of an average family engaged in building and composed of four persons would come to over 9,000 zlotys per month. Moreover, as a rule these are families in which more than one person works.

On the basis of the bank materials we also know that a part of the persons building single-family houses utilizes for this purpose not only accumulated savings, loans from the plant housing fund and bank loans. A quite numerous group of people also draws on family payments for housing construction, one-time revenues from inheritances, gifts and the like. The share of the builders' own work also has considerable significance, especially in workers' families. Unfortunately, adequate statistical data on this subject are lacking, and it is also quite difficult to arrive at sufficiently precise estimates.

As already noted, our credit policy among other things takes into account a preference for the construction of houses in localities in which the share of multi-family construction is relatively low. For this reason up to 60 percent of the total loans granted in 1978 fell on localities with up to 20,000 inhabitants and only 15 percent on localities with more than 100,000 inhabitants.

Obviously, credit policy is not alone in influencing the development of single-family construction here. An important role is also played by the policies of the local authorities which issue building permits.

* * *

Loan aid for the construction of single-family houses is provided only in those instances where the living area of the project does not exceed 110 or 140 square meters (the latter in the case of teachers or health service workers exercising their profession at home). This limitation is often questioned. Among others, the argument is raised that if the loan is repayable, it's granting should not be made dependent on a size limit for the dwelling unit which is being constructed.

This is a problem closely linked to the answer to the question, whether under the present housing conditions of the population we can generally abolish the norming of apartment sizes depending on the family situation. For if we cannot admit this in multi-family construction, then we must see the need for this also in relation to private construction, especially that which is implemented with the aid of loans.

Clearly we can say that certain preferences exist in favor of those who on their own undertake the construction of a house. It seems, however, that in relation to those obtaining apartments in multi-family buildings these preferences are being maintained. The average living area per unit for apartments completed in 1978 came to 51.2 square meters. In the same year the average living area of single-family houses of the non-agricultural population built with a bank loan allocations came to 96.8 square meters, and was thus almost twice as large. Only 21.6 percent of the newly built houses had a living area of 85 square meters or less, 72.5 percent of the houses had areas from 86 to 110 square meters, and 5.9 percent had larger living areas in accordance with entitlements to this.

In step with the improvement of the general housing situation we might consider a correction of the present upper living area limits for houses subject to credit allocations. It seems, however, that in the future the issue of controlling the size of dwelling units, including those in private construction, will also remain on the agenda.

A matter open for discussion is the question, how the norm for the maximum living area entitled to credit is to be set. Should we operate with the use surface concept, or would it not be better to define a suitably higher total living area? What speaks in favor of this second solution is, among other things, the need for creating an incentive for builders to utilize the total living area more efficiently, thus counteracting the excessive expansion of the auxiliary areas which now frequently takes place.

The issue of the family size of those undertaking the construction of single-family house with the aid of loans presents some interesting features.

Year	Percentage share of loan recipients by number of family members:		
	3 or less	4 - 6	more than 6
1975	40.0	57.3	2.7
1978	43.6	54.7	1.7

As the data in the table show, the share of larger families with 4-6 members building private housing structures is dominant. The share of families with no more than 3 members is also quite significant, while the percentage of families with more than 6 persons is quite small. It is interesting that this situation is to be observed with relatively small deviations in all socio-occupational groups of loan recipients. The data shown in the table testify that it is not only the size of apartments which is larger in private construction, but that the living area per inhabitant is also larger than in multi-family construction.

We can also observe that in general the standard quality of houses built with loans is quite good. According to the documentation submitted to the bank with the loan application, 28.6 percent of the houses in 1978 were to be fully equipped with plumbing systems, electricity, water, central heating, gas and sewerage. In addition, 50.8 percent of the houses were to have four of the above installations and 18.1 percent at least three. This is an incomplete picture since a part of the loan recipients complement the system installations after they have already begun to inhabit the house. But it is quite an optimistic one, since in barely 2.5 percent of the projects on which loans have been issued are the installation of only one or two systems envisaged at the start of construction. Besides, the quantity of some installations is closely linked to the accessible external infrastructure (e.g., not in all localities is it possible to count on a gas hookup).

* * *

An important element for the evaluation of the effectiveness of private housing construction is its cost. At the time of the loan application cost estimates are submitted to the bank which contain the anticipated construction costs of the house. According to these documents the construction costs of a house came to the following (in zlotys):

Year	Average cost per house	Average cost per m ² of use area
1975	344,300	3,499
1978	519,213	5,364

In 1978 the overwhelming majority of houses had an estimated cost between 401-600 thousand zlotys (82.7 percent). A small number of houses (10.4 percent) exceeded this magnitude, and an even smaller number (6.9 percent) indicated costs of 400 thousand zlotys or less.

In presenting these data it must be made clear that they can be treated only as a certain approximation. At the time of the submission of the documentation to the bank the costs may not be complete. And the possibility for a proper verification of costs after completion of the projects is lacking.

Apart from this there is the problem of how costs should be counted? In general it is assumed that cost estimates should take into account the full contribution of the builder's own work, the actual value of the materials, and the like. In actual practice the contribution of the builder's own work is not always properly taken into account. Part of the work is at times omitted, and sometimes an attempt is made to exaggerate this contribution; there are instances of purchases of more expensive materials. Frequently the utilization of waste materials, including materials used as aid from the place of employment, causes a reduction of the costs.

It is difficult to arrive at a precise evaluation of the scale of deviations of actual costs in private construction from the costs submitted in the cost estimates. On the basis of estimates, however, we can assume that these costs run about 10 to 20 percent above the estimates supplied to the bank. As an approximation we can thus assume that the average cost of a private house in 1978 came to about 600,000 zlotys and the cost per square meter of use area to about 6,000 zlotys.

While taking full account of the debatability of such comparisons, it is nonetheless worth noting that the cost per apartment in multi-family cooperative construction in 1978 was significantly lower (about 315,000 zlotys) whereas the investor's cost per square meter of use area was about the same and came to roughly 6,220 zlotys.³ Thus the cost of constructing a private house quite significantly exceeds the cost of building an apartment in multi-family construction, but this is caused mainly by the significantly larger living area of single-family houses in comparison to that of apartments in multi-family structures.

The quite significant cost of building a single-family house justifies financial aid from the part of the state for persons undertaking construction. Its size has grown quite substantially in the course of the last 3 years. This was influenced not only by the growth of the prices of materials, but also by an improvement in the quality standard of the houses constructed (e.g., it is estimated that the cost of full water supply and sewerage installations for a building with a living area of 110 square meters comes to about 100,000 zlotys).

In the present situation an individual undertaking the construction of a residential structure must accumulate his own initial contribution (at least 20 percent of the construction cost). Loan aid is at present issued to the amount of 150,000 zlotys at an annual interest rate of 6.3 percent. The repayment of the loan commences only after the completion of construction (the grace period amounts to 2 years), and the repayment period itself is very long.

3. If account is taken of the fact that the investors' costs do not fully cover the actual costs of socialized multi-family construction, the costs in multi-family construction would have to be raised by an additional 10-12 percent.

The average size of loans was 132,600 zlotys in 1978 and now approaches 150,000 zlotys. Practically all applicants meeting the appropriate requirements in the course of the last 2 years obtained a bank loan.

Considering that the average cost estimate value of a house in 1978 came to 519,200 zlotys, we can calculate that for each zloty in bank loans the customer had to engage 2.91 zlotys of other resources (including his own work and resources of his place of employment). If we apply a correction for the understatement of construction costs, this amount increases to about 3.5 zlotys. It is on this background that the issue of increasing the individual quota for loan allocations in house construction should be reviewed. It appears that an increase in the limit for the low-interest loan to 200,000 zlotys and in that for the supplementary loan to 50,000 zlotys would make private construction more attractive and permit a shortening of the construction cycle while still retaining a very significant engagement of the private resources of the population.

In presenting this proposition it should not be overlooked that under conditions of a tight market an extension of the sphere of credit allocations requires quite circumspect decision-making, even if account is taken of the fact that the repayment of the loans will in the future have a positive influence on the market equilibrium. It seems that a source for [financing] an expansion of loan operations for the current crediting of private construction without upsetting the market equilibrium might be shortening of the repayment period of the loans by 5 years, because this equilibrium is affected not so much by the volume of loan disbursements as by the difference between this volume and the inflow of loan repayments. A shortening of the repayment period would permit an increase in loan disbursements by over 15 percent without causing a growth in overall indebtedness.

It appears that in the present situation of the loan recipients this is possible. If we were to assume that the size of the basic loan amounted to 200,000 zlotys with an interest charge of 3.3 percent annually for 25 years, then the monthly repayment instalment would come to 980 zlotys. Calculated per square meter this would amount to 10.10 zlotys monthly, i.e. to an amount approximately equal to the loan repayment instalments for apartment ownership in cooperative construction.

Monthly repayments [of this size] fall within the capacities of the average family undertaking the construction of a house whose income, as already noted, runs to about 9,000 zlotys per month.

There is no doubt that the proposition put forth here merits further discussion, but its aim is the formulation of a constructive suggestion in favor of an expansion of loan aid even under difficult market conditions which does not cause a deterioration of these conditions. It also issues from experience gained in many years of collaboration with bank customers. This experience shows that for the individual implementing a private construction project the aid during the construction period, which is expressed above all in the size of the loan granted, has special significance. The future monthly repayment burden, by contrast, plays a lesser role. It should also be taken into account that the repayment instalments will be stable whereas the earnings of the loan recipient will be subject to a gradual increase.

POLICY TO ACHIEVE MORE EFFECTIVE ENERGY USE

Bucharest REVISTA ECONOMICA in Romanian No 39, 28 Sep 79 pp 6-7

[Article by Nicolae Licu, member of the State Planning Committee]

[Text] The sensible management of fuel and energy resources and their optimum use represents a significant prerequisite for the accelerated development of the Romanian economy. The complex issue of developing and utilizing the energy supply has been scientifically addressed in the project entitled "Program-Directive for Research and Development in the Field of Energy for the Period 1981 to 1990 and Principle Directions Until the Year 2000." This is a document of exceptional significance that will be debated and approved at the party's XIth Congress. Among the program's major objectives, of particular importance are those directed toward the priority economizing of energy through maximum use of the unit of energy consumed.

Modifications of the Energy Balance Structure

Even before the restrictions imposed by the energy crisis appeared the energy policy consistently promoted in our country, particularly in the last few five year periods, has made possible an assured supply of the resources needed under the conditions of a regime of strict economizing. After an early period in which the consumption of energy in Romania outdistanced the dynamics of industrial production and the national income, typical of the particular stage of development of certain basic industrial branches that are strongly energy intensive, a continual reduction was recorded in energy consumption with respect to the synthetic indicators of economic development (Table 1).

Continual reduction of the energy intensiveness of the Romanian economy was accompanied by permanent improvement in the structure of the primary energy resources. Coal and hydroelectric energy were promoted in view of the reduced preponderance of liquid and gaseous hydrocarbons (Table 2).

An essential and constant aspect of our country's energy policy has been the maximum supply of necessary fuel and energy from domestic resources.

Despite this, Romania's energy needs can now be satisfied only in part by domestic production (Table 3).

In 1978 about 46 percent of crude oil consumption was covered by imports acquired under the difficult conditions of purchasing on the world market. This is why the program-directive project emphasizes the need for our country to become independent in the upcoming decade with respect to fuel and energy. This is a strategic option of particular importance.

The expansion of efforts to improve the structure of energy use in our country is an especially significant concern in the rational management of energy. Judicious formulation of the economic profiles of our country's various zones and localities and the selection of the locations of new industrial bases with respect to the location and accessibility of fuel resources and energy production sites is in planning. This is necessitated by the nonuniform geographical placement of resources, the shipment of which proves to be rather costly.

The economic profile of an industrial base or locality must be determined when considering the energy variable on the basis of analysis and optimization of the respective bases or localities energy balance. A "heat map" can be prepared for the purpose of indicating the geographic localization of points where there exist respective stages of availability or shortage of thermal energy in all forms. Maps compiled with such data are being made in several countries under the auspices of the International Agency for Energy.

The objectives and tasks of the unified national energy plan, an integral part of the socio-economic development of Romania, are reflected in the development plans at the level of each region [TN: judet] and locality. This is in accordance with the principle of a unified national plan at the three levels of industrial branch, department and territory.

A Method of More Complex Evaluation of the Efficiency of Energy Use

Present conditions require substantial improvement of the organization of production in order to reduce the consumption of fuels and energy. Under these conditions the statistical indicator "value of production (i.e., the national income) attained per unit of energy consumed" is of particular utility in the energy-economic analysis at the level of nation and industrial branch or sector. This indicator is preferable to that of energy consumption per unit of production or national income currently in use, literature of economics in that it more clearly shows the importance of energy as a factor of production. It clearly emphasizes the necessity of not only reducing energy use but also the importance of attaining the projected level of national income. This indicator has also been used in certain works of the United Nations. However, the possibilities it offers in economic analysis have not been sufficiently developed in our country.

A more careful examination of the indicator is also necessitated by the fact that the current level of the value of production (i.e., of the national income) attained in our country with one unit of energy is below the results obtained in a series of more developed countries (Table 4).

In many branches of economic activity energy costs represent a small part of total costs and even decrease in proportion to the costs of other production factors. It should, therefore, not be surprising that the value of production achieved per unit of energy increased more slowly than the value of production obtained per unit of labor. In some developed countries, for example, labor comprises approximately 76 percent of the cost of producing the gross national product (GNP) compared to only about five percent for the cost of raw materials. This means that an increase of one percent in labor productivity represents a savings of 0.75 percent of the cost of producing the GNP compared to only 0.05 percent for an increase of one percent of the value of production obtained per unit of energy consumed. This situation has led to a concentration of efforts to reduce the predominance of those factors of production that comprise a greater part of the total costs of manufacturing even at the expense of increased energy consumption.

In recent years the predominance of energy costs among the total of production expenditures increased noticeably in most branches of activity. This is in part the result of increased energy prices and also of a more accurate estimation of energy use done by calculating cumulative energy consumption. Efforts directed toward energy economy have become an even more important object of attention because they lead to greater economic advantages than those obtained when actions are directed to other factors.

The studies conducted by UN agencies demonstrated that the value of industrial production obtained per unit of energy has increased in the majority of countries, but at varying rates. The study of various branches of industry determined that in the large majority of countries a continuous and rather rapid increase in the value of production attained per unit of energy was achieved in the chemical industry whereas decreases in this indicator were noted in the textile and leather industries in certain countries. These decreases are an apparent result of the increase in the pace of automating production and the resulting labor reductions. Examination of the statistical data from other countries confirms the suppositions that the industries in which energy represents an important part of total costs are stimulated to accelerate the rate of introducing technical innovations. Such efforts to economize energy resources are expected to increase the value of production obtained per unit of energy to a greater degree than in other branches. This tendency must, of course, be viewed as general in nature. The growth rate in the value of production obtained per unit of energy in a particular branch is determined by the interaction of numerous factors. A review of the evolution of the value of production achieved per unit of energy as it is calculated on

the basis of industrial production in several of the principle industrial branches on our country shows greater increases in the less energy intensive branches (Table 5).

Because of the rather broad definitions of the branches of industry and economy, the variations in the value of production achieved per unit of energy are often due to changes in the organization of production and not to a more or less efficient use of energy. This is one disadvantage of analyzing the evolution of the value of production achieved per energy unit.

In order to eliminate these possible shortcomings it is necessary to intensify research into the value of production obtained per unit of energy. This requires a more detailed recording of energy expenditures in each branch of industrial activity in relation to achieved production levels. The indicator "value of achieved production per unit of energy" is also useful in studies concerning improvement of the organization of production at the level of industry, branch, sub-branch or even production group. If the value of production achieved per energy unit or the development of productivity in an industrial branch is barely satisfactory in comparison to the values in other countries the policies regarding the development of that particular branch can be revised. The value of production achieved per energy unit can in this way serve as a fundamental criterion in the evaluation of results in the industry and can become a crucial production factor under the conditions of increasing energy prices during future long term planning periods.

One need only consider the incidence of the indicator "value of production obtained per unit of energy" and its significance with regard to the fuel and energy needs at both the national level and the levels of the branches of industry and economy to understand the particular benefits of conducting research and studies in the branches of activity where significant increases of production per energy unit are determined to be possible and technically and economically attainable.

Table 1. Increase in Energy Consumption and the Dynamics of Production

	Percentage	
	1970 1965	1976 1970
Gross National Product	152	175
National Income	145	184
Energy Consumption in Proportion to the Gross National Product	1.01	0.82
Energy Consumption in Proportion to the National Income	1.06	0.79

Source: World Energy Supplies 1950-1974, United Nations, N.Y., 1976;
Item, 1972-1976, 1978; Statistical Yearbook of the Socialist Republic of
Romania, 1978.

Table 2. The Structure of Electrical Energy Production

	Percentages				
	1970	1975	1980	1985	1990
Electrical Energy Pro- duction of Which:	100.0	100.0	100.0	100.0	100.0
Hydroelectric	8	16.2	17.6	20	24
Nuclear	--	--	--	--	17-18
Coal and Oil Shales	27.7	27.8	40	55	44
Solar Energy, Other New Sources of Energy and Renewed Energy Resources	61.6	53.2	39.7	20	5-6
	2.7	2.8	2.7	5	10

Table 3. Level of Domestic Supply of Energy Needs

	1965	1973	1976
Romania	1.18	0.97	0.94
Poland	1.15	1.16	1.11
USSR	1.12	1.12	1.24
USA	0.91	0.82	0.825
German Democratic Republic	0.84	0.73	0.695
Hungary	0.76	0.67	0.59
Federal Republic of Germany	0.74	0.49	0.455

Source: World Energy Supplies 1972-1976, United Nations, N.Y., 1978.

Table 4. The Value of Production Per Unit of Primary Energy and, Respectively, of Electric Energy in 1976.

Country	Consumption of Primary Energy Per Inhabitant in kgec	Consumption of Electricity Per Inhabitant in kWh	Value of Production Attained Per Unit of Energy	
			Primary Energy in U.S. Dollars National Income/ 1 tcc	Electrical Energy in U.S. Dollars National Income/ 1 MWh
USA	11,554	9,911	606	706
Czechoslovakia	7,397	4,468	457	756
German Democratic Republic	6,789	5,330	547	697
Federal Republic of Germany	5,922	5,440	1,089	1,186
USSR	5,259	4,285	461	567
Poland	5,253	2,026	479	832
Bulgaria	4,710	3,562	432	572
France	4,380	3,876	1,342	1,517
Romania (1977)	3,934	2,336	457	770
Japan	3,679	4,538	1,217	987
Hungary	3,553	2,469	564	812
Yugoslavia	2,016	2,030	734	729

Source: Calculated based on data from the Statistical Yearbook, 1977, United Nations, N.Y., and World Bank Atlas, 1977.

Table 5. The Value of Production Obtained Per Unit of Primary Energy in the Principle Industrial Branches in Romania

Branch	Value of Per Unit Consumed 1975	Production Obtained of Primary Energy (Value in Lei/sec) 1980 ¹	Growth of Production in 1960 Compared to That of 1975 (Percentage)
Total Industry ²	11.9	15.1	162-170
Ferrous and Nonferrous Metallurgical Industry	6.25	7.3	173-181
Chemical Industry ³	5.0	5.6	203-215
Lumber and Construction Materials Industry	7.5	8.6	154-161
Machine Building Industry	59.5	80.6	175-181
Light Industry	39.8	46.7	147-152

1. Calculated according to the data of the 1976-1980 Five-Year Plan.
2. Excluding raw materials in the chemical industry and coke and coking coals in the Metallurgical industry.
3. Including consumption of carriers of primary energy as raw materials.

EQUIPMENT DELIVERY, ASSEMBLY PROBLEMS INVESTIGATED

Bucharest REVISTA ECONOMICA in Romanian No 39, 28 Sep 79 pp 8-9

[Article by Gh. Draghici and C. Sirbu]

[Text] The on schedule completion and operational start of new production facilities represents a major source of growth for industrial production, the national income and the welfare of the working people. It is of particular importance for the entire national economy that increased efforts be made throughout this entire process, from conception to execution, toward exemplary fulfillment of the provisions of the investment plan. As pointed out by Comrade Nicolae Ceausescu at the Council for Action of the Central Committee of the RCP in September of this year, a much greater contribution than that at present must be made by all involved parties as part of the timely fulfillment of the completion and operational start of new industrial investments under optimum conditions. These parties include the construction trusts and enterprises, the ministries, the enterprises furnishing the technological production equipment and the recipient enterprises throughout the entire economy.

It is very important to speed up the delivery of materials and assembly of production equipment in order to fulfill the particularly important tasks of shortening the amount of time needed for the construction and operational start of new production facilities.

An Essential Condition of Operational Starts is Obtaining the Production Equipment

A study conducted this year of the stage of operational starts of new industrial facilities demonstrates that the most significant delays in meeting the investment plan construction deadlines occurred in the chemical and metallurgical industries. The Chemical Plant Construction Trust in Bucharest is responsible for putting into operation over 220 new production facilities this year, primarily for beneficiaries in the chemical industry but also for metallurgical enterprises. This involves, in particular, projects to assembly and install major production equipment and technological pipelines at the new construction sites of the petrochemical

combines at Midia-Navodari, Teleajen, Brazi and Borzesti and the chemical combines at Craiova, Fagaras and Pitesti, at the chemical fertilizer combines at Arad, Tirgu Mures, Bacau and Slobozia and at the metallurgical enterprises at Tulcea, Slatina and other locations.

The essential condition for on schedule completion and operational start has been clearly shown in the activity performed by the trust this year to be the delivery of the technological production equipment. Whenever it was delivered to the construction sites on schedule and in the sequence required for installation the assembly work proceeded at the planned rate. The production facilities thus became operational on time or even ahead of schedule. Forty-six facilities were completed and turned over for production in the first eight months of this year. Among these, three were finished ahead of schedule. They were two ammonia production facilities at the Bacau Chemical Fertilizer Combine and an organic synthetics facility at the Bucharest Medicine Manufacturing Enterprise.

However, a large number (82) of facilities were recorded as not completed on schedule during the period studied. The primary cause was delays in delivery by the enterprises furnishing the major production equipment in violation of contract stipulations. The largest quantity of delayed equipment (7,034 tons) was noted from suppliers under the Ministry of the Machine Building Industry. For example, the Bucharest Red Grivita Chemical Equipment Manufacturing Enterprise was behind as of August 31 of this year in the delivery of 435 tons of equipment based on deadlines in contracts with recipient enterprises. These enterprises were the Bacau Chemical Fertilizer Combine, The Slobozia Chemical Fertilizer Combine and the Timisoara Danubiana Solvent Manufacturing Enterprise. At the same time, suppliers under the Ministry of the Chemical Industry were behind schedule in the delivery of approximately 3,000 tons of production equipment to its recipient enterprises in the same branch of industry. At the end of August the Chemical Production Equipment Manufacturing Enterprise in Gaesti was behind in the delivery of 1,211 tons to the recipient Teleajen and Brazi petrochemical combines, the Cimpulung-Muscel Synthetic Fibers Combine and others.

The late delivery of technological equipment, both from domestic and import suppliers, has placed construction engineers in a situation where they cannot meet deadlines for having facilities in operation and has rendered ineffective their efforts to complete certain construction projects ahead of schedule. Failure to meet deadlines for delivery of technological equipment contributed nearly 70 percent to the delays in completion of 11 facilities belonging to the Midia-Navodari Petrochemical Combine, 10 other facilities at the Borzesti refinery, and other construction projects at the chemical fertilizer combines in Bacau, Slobozia, Arad and Tirgu Mures.

The enterprises supplying chemical technological equipment must prioritize their manufacturing programs so as to complete as soon as possible the equipment ordered for the facilities whose construction is behind schedule

and for those being put into operation in the fourth semester of this year. Greater efficiency is needed in coordinating the efforts of production equipment designers, suppliers and recipients in order to find possibilities for delivery, primarily of that equipment which will be immediately put into full operation.

Such action is not only necessary but possible because many of the equipment suppliers are under the same ministry as the recipients. However, it is essential that the recipients of major investments conclude contracts with suppliers well in advance, depending on the complexity of the construction and the time required to assemble and install the equipment. They must also provide the suppliers with complete construction documentation and do this more promptly than in the past so as to allow the manufacturing enterprises time to organize their production and program the manufacturing well in advance and to provide themselves with the needed stocks of raw materials.

One important cause of delays in manufacturing and delivering the technological equipment is the limited degree of standardization of both the industrial production shops and the production equipment of the facilities under construction by the engineering and design institutes in the chemical industry. It is necessary to act with perseverance in this matter in order to as soon as possible achieve standardization of the majority of buildings and production equipment so that some facilities can be put into operation as scheduled.

Increased Efforts to Reduce the Stocks of Uninstalled Production Equipment

It is impossible to conduct a complete study of the correlation between operational starts and the delivery of technological equipment without going into the problem of the large stocks of technological equipment on hand but still uninstalled at the construction sites. The investigation conducted showed that as of 20 September 1979 there existed a stock of approximately 19,000 tons of production equipment at construction sites of recipient enterprises in the chemical industry. The primary reasons for the existence of these stocks are:

1. The existence of a long sequential process of assembly and installation specific to the complex facilities in the chemical industry. This is why approximately 10,000 tons of equipment are currently kept in storage at the construction sites. This quantity represents over 56 percent of total stocks (see Table). Various steps are taken in order to reduce this significant quantity of immobilized equipment. However, it is necessary to continue and increase efforts to extend the application of certain high productivity technologies (e.g., automated welding, on location assembly, assembly of major sub-units using high capacity cranes), to organize welding and quality control operations (i.e., non-destructive gamma and ultrasonic) into two work shifts, etc. A greater consistency

is also needed in pursuing programs to supply the units of construction trusts with high yield assembly equipment such as cranes with telescoping arms. The recipient enterprises must also facilitate a higher rate of assembly work by assigning their own qualified employees to assist the construction crews, particularly at the sites in Arad, Borzesti, Midia, Brazi, Teleajen, Craiova, Giurgiu and others.

Table: Breakdown of Technological Equipment Stocks By Percentage
as of 20 September 1979

Site	Stocks of Equipment as of 20 Sep 79	Causes of Stockpiling			
		Long Assembly Process	Adequate Work Force Not Provided	Out of Necessary Sequence for Assembly	Lack of Documenta- tion, Advance Notice or Specialists
Entire Ministry of Chemical Industry	100	56.1	12.8	13.0	16.5
1. Petrochemical Refiner- ies and Installations:					
--Brazi	100	85.4	3.8	0.9	9.8
--Teleajen	100	37.5	37.2	12.4	2.8
--Borzesti	100	53.7	9.1	19.1	19.8
--Midia-Navodari	100	51.4	9.4	17.1	21.9
2. Chemical Fertilizer Combines					
--Slobozia	100	79.1	3.7	7.8	9.2
--Bacau	100	17.4	5.8	76.7	--
--Craiova	100	25.2	17.3	--	57.3
--Tirgu Mures	100	51.5	48.5	--	--
3. Chemical Combines:					
--Cimpulung-Muscel	100	--	42.0	51.2	6.8
--Giurgiu (Site No 2)	100	--	7.9	--	--

2. Inadequate provision of labor forces. For this reason, 2,433 tons of technological equipment remained unassembled. This is 13 percent of total stocks. This problem is due primarily to the delays in construction work performed by certain general contractors. The Ploiesti industrial construction trusts and the Midia and Cluj chemical construction trusts have delayed the completion of construction operations. In order to reduce this category of stockpiles the recipient enterprises must pressure for prompter release of construction sites and the final completion of the necessary construction plans. The construction general contractors must strive for timely construction of access roads, facility foundations and other works on which the assembly and installation operations depend. Work must be organized into two shifts where the quantity of available construction equipment is not sufficient.

3. Delivery of technological equipment out of order with the necessary assembly and installation sequence. This causes 2,741 tons of equipment, 13 percent of total stocks, to be immobilized.

The practice of some suppliers of technological equipment is to comply with the provisions in contracts with recipient enterprises only in terms of tonnage while delivering in advance certain lots of equipment not needed at the time by the assembly workers. In the meantime they remain in arrears with other equipment parts required with priority according to the assembly technology. This practice also leads to the increase of the stockpiling of equipment at the construction sites thereby immobilizing important monetary assets. All manufacturers must understand that deliveries not correlated with the assembly sequence, even if they surpass the contract provisions in terms of weight, mean nothing more than wasted effort and undesirable stockpiling of equipment at the sites and do not at all contribute to the pace of assembly operations.

4. Lack of construction and assembly documentation required from the recipient enterprises. This is currently responsible for immobilizing over 3,100 tons of equipment or over 16 percent of total stocks. In this context, elimination of such impediments requires the submission of the delayed documentation as well as technical assistance afforded at the site by the designers.

In addition to all these causes, it must be noted that some delays in the assembly and installation of equipment are also due to shortcomings in the activity of the constructors. They primarily involve the non-availability of the necessary workers in certain specialties as well as certain deficiencies in the organization of the construction sites. All these have reduced the productivity of labor and the extent of utilization of construction equipment. Even if the majority of these problems are minimized in all areas causing delays in the assembly and installation of technological equipment the management of the construction trust must still devote greater attention to their total elimination as a possible means of reducing the time needed to put new production facilities into operation.

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